CALPINE

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March 5, 2004

Mr. Robert L. Therkelsen
Executive Director
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

SUBJECT: SUPPLEMENT IN RESPONSE TO DATA ADEQUACY COMMENTS ON THE APPLICATION FOR CERTIFICATION FOR THE LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION (03-AFC-02)

Dear Mr. Therkelsen:

In accordance with the provisions of Title 20, California Code of Regulations, Los Esteros Critical Energy Facility, LLC, hereby submits this document titled *Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility Phase 1 Relicense and Phase 2 Combined-Cycle Conversion (03-AFC-02).* The Los Esteros Critical Energy Facility is a natural gas-fired power plant located in the City of San Jose, California.

As an officer of Los Esteros Critical Energy Facility, LLC, I hereby attest, under penalty of perjury, that the contents of this application are truthful and accurate to the best of my knowledge.

Dated this 5th day of March 2004.

Sincerely,

Curt Hildebrand
Vice President
Los Esteros Critical Energy Facility, LLC

Supplement in Response to

Data Adequacy Comments

on the

Application for Certification

for the

Los Esteros Critical Energy Facility

Phase 1 Relicense and
Phase 2 Combined-Cycle Conversion
San Jose, California
03-AFC-02

Submitted to the
California Energy Commission

Submitted by
Los Esteros Critical Energy Facility, LLC

March 2004

Contents

Introduction

This supplement to Los Esteros Critical Energy Facility, LLC's (Applicant's) Application for Certification (AFC) for the Los Esteros Critical Energy Facility Phase 1 Relicense and Phase 2 Combined-Cycle Conversion (03-AFC-02), responds to comments that California Energy Commission (CEC) Staff have made on data adequacy worksheets that Staff have provided to the Applicant. The format for this supplement follows the order of the AFC, and provides additional information and responses to CEC information requests on Project Description and Overview (Chapters 1 and 2), Transmission System Engineering (Chapter 6), Air Quality (Section 8.1), Biological Resources (Section 8.2), Cultural Resources (Section 8.3), Geological Hazards and Resources (Section 8.4), Noise (Section 8.7), Socioeconomics (8.10), Paleontological Resources (Section 8.8), Soils and Agriculture (Section 8.11), Water Resources (Chapter 8.15), and Worker Health & Safety (Chapter 8.16). Only sections for which CEC Staff posed requests or questions related to data adequacy are addressed in this supplement. If the response calls for a revised map or additional appended material, it is included at the end of each section. Revised maps and tables are numbered sequentially with reference to the AFC Section and with an "S" designation before the number, to distinguish material filed in the supplement from material filed in the original AFC (for example, Figure 8.3-S1).

1.0 Project Overview

1. Map with laydown area (Appendix B[b][1][A]):

Maps at a scale of 1:24,000 (1" = 2000'), along with an identification of the dedicated leaseholds by section, township, range, county, and county assessor's parcel number, showing the proposed final locations and layout of the power plant and all related facilities; Information required to make AFC conform with regulations:

Information required to make AFC conform with regulations:

Maps at 1:24,000 (1" = 2,000') scale with information satisfying Appendix B(b)(1)(A) requirements including new or altered terrain features, proposed laydown area(s).

Response—The attached Figure 1.1-S1 (revised AFC Figure 1.1-2) indicates the laydown area location. There are no altered terrain features, as all construction for Phase 2 will take place within the existing project fenceline and will involve excavation for utility placement and restoration to grade.

2. Map with transmission connections (Appendix B[b][2][A]):

Maps at a scale of 1:24,000 of each proposed transmission line route, showing the settled areas, parks, recreational areas, scenic areas, and existing transmission lines within one mile of the proposed route(s).

Information required to make AFC conform with regulations:

Maps at 1:24,000 (1" = 2,000') scale with information satisfying Appendix B(b)(2)(A) requirements, including final transmission interconnection(s), trails, bike and hiking paths, and other required App. B(b)(2)(A) features.

Response—The attached Figure 1.1-S1 (revised AFC Figure 1.1-2) shows final transmission interconnections, trails, bike, and hiking paths.

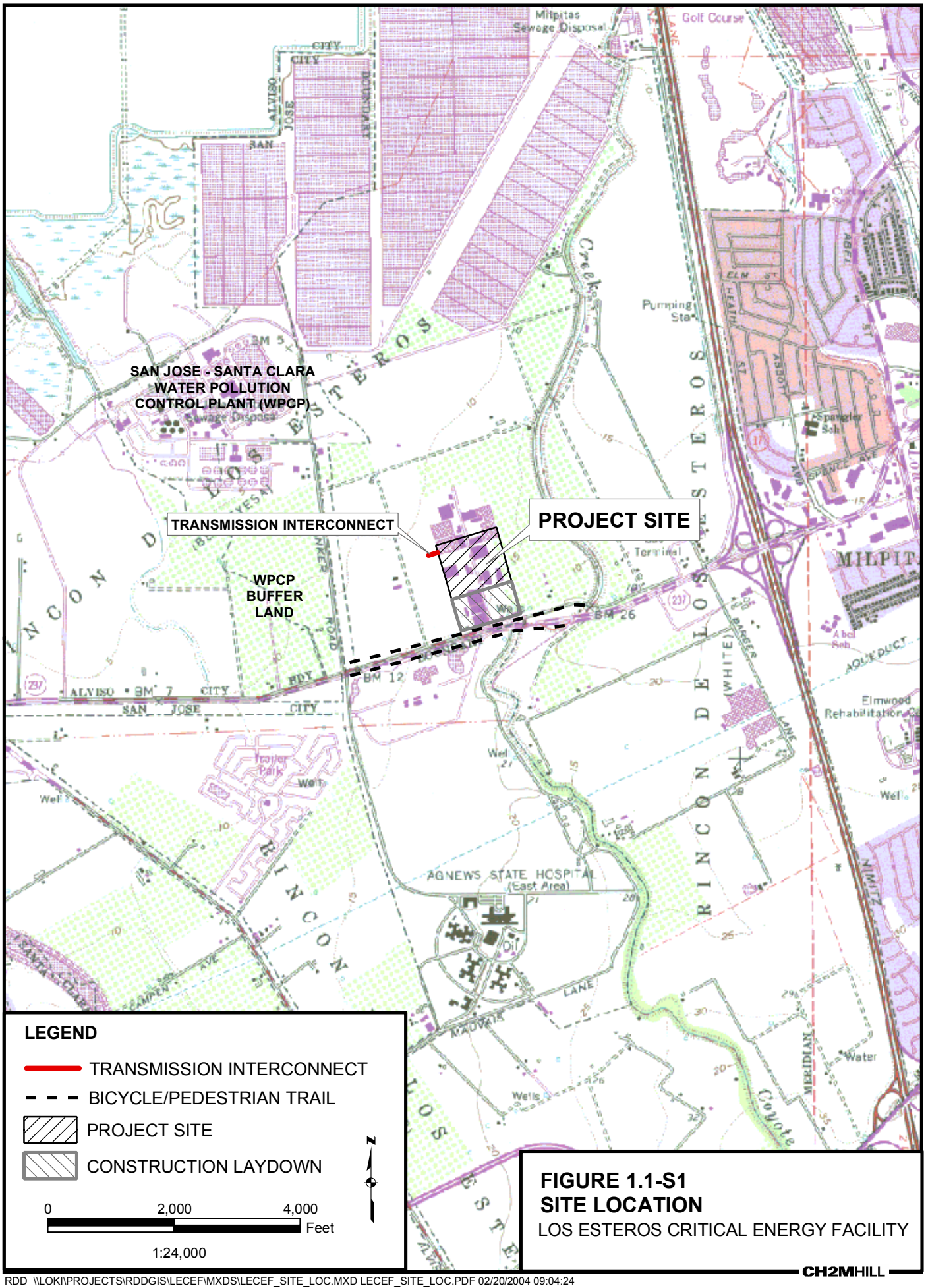


FIGURE 1.1-S1
SITE LOCATION
LOS ESTEROS CRITICAL ENERGY FACILITY

CH2MHILL

RDD \\LOKI\PROJECTS\RDDGIS\LECEF\MXDS\LECEF_SITE_LOC.MXD LECEF_SITE_LOC.PDF 02/20/2004 09:04:24

2.0 Project Overview/Efficiency/Reliability

1. Heat and mass balance diagrams (Appendix B[i][4][A]):

Heat and mass balanced diagrams for design conditions for each mode of operation.

Information required to make AFC conform with regulations:

Please provide the numerical values that are missing from Figure 2.4-4. Also, state net plant heat rate in Btu/kWh for each mode of operation.

Response—The attached Figure 2.4-S1 contains the numerical values, including the heat rate and output for the design case.

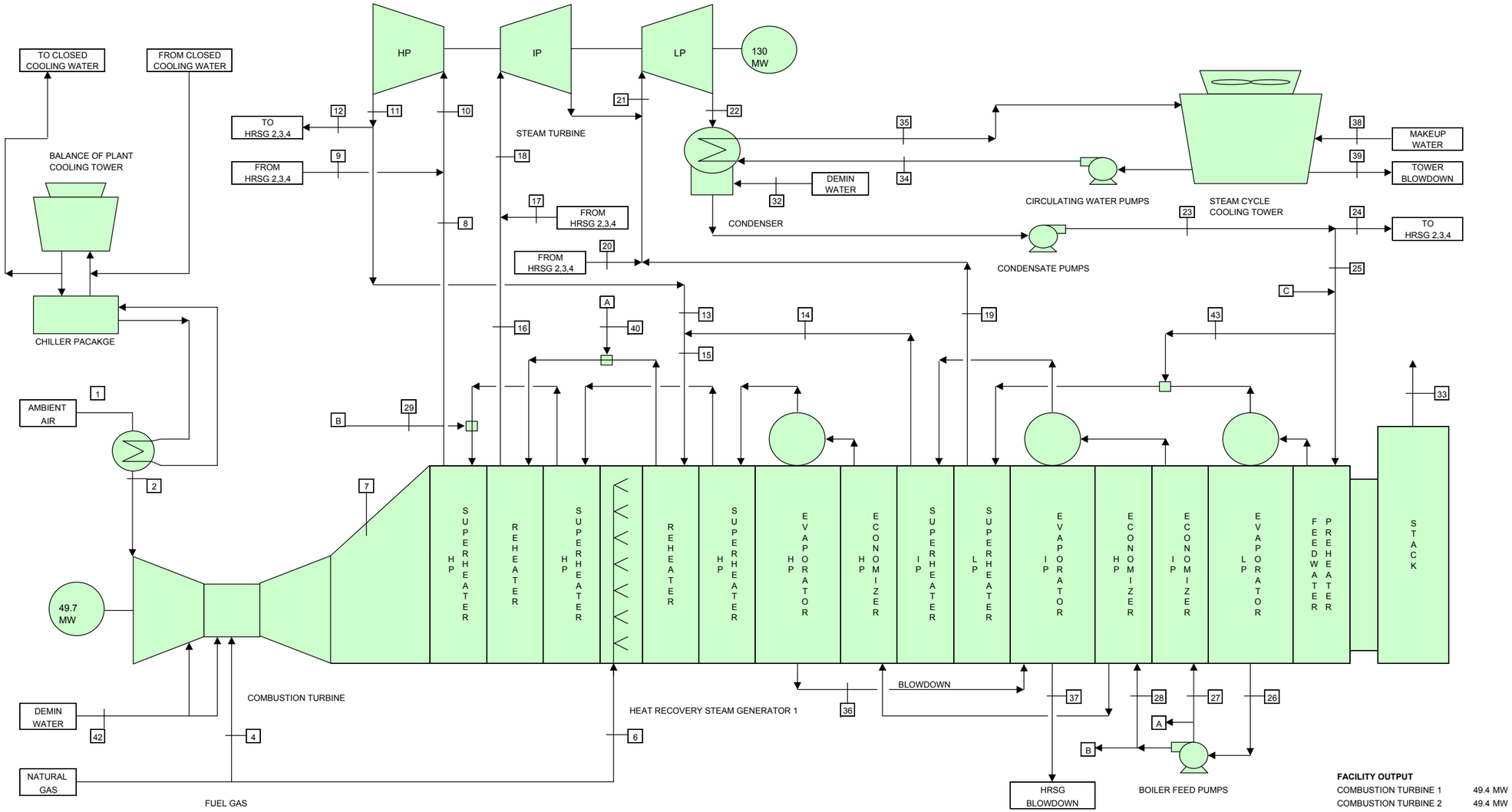
2. Maturation period (Appendix B[i][3][B][v]):

The expected power plant maturation period.

Information required to make AFC conform with regulations:

Phase 1 and 2: Please describe the maturation period. For mature technologies, this may amount to the startup period.

Response—The deterioration of output capacity and efficiency of LECEF over time, called maturation, is expected to be on the order of 2 to 3 percent over a 3-year period for Phase 1. Periodic cleaning and maintenance will recapture most of the loss. Over the expected 30-year life of the facility, the estimated total unrecoverable loss in output and efficiency will be on the order of 1 to 2 percent. Phase 2 capacity and efficiency will mature differently from Phase 1 due to the different maintenance schedules for the STG and CTGs and the additional steam cycle equipment. Phase 2 output will deteriorate 3 to 5 percent over a 5-year period due to additional losses in the HRSG, STG and heat rejection system. Phase 2 efficiency will decline 2 to 3 percent over the same 5-year period. The efficiency loss is minimized since the lost efficiency in the CTGs will be recovered by the steam cycle. Similar to Phase 1, cleaning and maintenance will recover most of the losses. Over the expected 30-year life of the facility, the estimated total, unrecoverable losses in output and efficiency will be on the order of 2 to 3 percent.



FACILITY OUTPUT

COMBUSTION TURBINE 1	49.4 MW
COMBUSTION TURBINE 2	49.4 MW
COMBUSTION TURBINE 3	49.4 MW
COMBUSTION TURBINE 4	49.4 MW
STEAM TURBINE	130.0 MW
GROSS OUTPUT	327.6 MW
AUXILIARY LOADS	9.7 MW
NET OUTPUT	317.9 MW

Rev.	Description	By	Date
A	Issued for Permit	GRB	12/22/2003

Notes:
1. Fuel gas flowrates are based on an assumed natural gas higher heating value of 22,979 Btu/lb.
2. Arrangement of HRSG sections is typical. Acutal heat transfer section arrangement may be different.

Design Case:	**Average Day**		
Configuration:	4x1	Site Altitude:	15 ft
Dry Bulb Temp.:	61 deg. F	Wet Bulb Temp.:	55 deg. F
SPRINT:	Yes	Net Output:	317.9 MW
Chiller:	Yes	Heat Rate:	7,684 Btu/kWh
Duct Firing:	Yes		

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Figure 2.4-S1

LECEF2-H-001 | **Rev. A**

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Los Esteros Critical Energy Facility

Heat and Mass Balance Data

LECEF2-H-001

Design Case: Average Day

Stream No.	Units	1	2	3	4	5	6	7	8
Mass Flow	lb/hr	1,009,343	1,009,343	0	20,558	0	5,865	1,054,319	144,636
Temperature	°F	61	50	n/a	n/a	n/a	n/a	829	991
Pressure	psia	14.7	14.7	n/a	n/a	n/a	n/a	15.28	1,836
Stream No.	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Mass Flow	lb/hr	144,636	433,908	549,953	137,488	137,488	24,881	162,369	162,369
Temperature	°F	991	991	609	609	609	619		1,021
Pressure	psia	1,836	1,836	401	401	401	393	393	389
Stream No.	**Units**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
Mass Flow	lb/hr	162,369	649,476	21,368	64,104	762,330	762,330	762,330	571,748
Temperature	°F	1,021	1,021	434	434		97	97	97
Pressure	psia	389	389	52	52	52	0.86	120	120
Stream No.	**Units**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**
Mass Flow	lb/hr	190,583	169,517	24,881	144,636	0	0	0	0
Temperature	°F	97	282		287	287	n/a	n/a	n/a
Pressure	psia	120	71	455	1,692	1,692	n/a	n/a	n/a
Stream No.	**Units**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
Mass Flow	lb/hr	1,054,319	70,336	70,336	0	0	355,500	72,000	0
Temperature	°F	205	69	90	n/a	n/a	60	90	n/a
Pressure	psia	14.7	40	30	n/a	n/a	20	25	n/a
Stream No.	**Units**	**41**	**42**	**43**					
Mass Flow	lb/hr	0	24,472	0					
Temperature	°F	n/a	60	n/a					
Pressure	psia	n/a	20	n/a					

6.0 Transmission System Engineering

1. System Impact Study (Appendix B[b[2][C]):

A detailed description of the design, construction, and operation of any electric transmission facilities, such as power lines, substations, switchyards, or other transmission equipment, which will be constructed or modified to transmit electrical power from the proposed power plant to the load centers to be served by the facility. Such description shall include the width of rights of way and the physical and electrical characteristics of electrical transmission facilities such as towers, conductors, and insulators. This description shall include power load flow diagrams which demonstrate conformance or nonconformance with utility reliability and planning criteria at the time the facility is expected to be placed in operation and five years thereafter; and

Information required to make AFC conform with regulations:

Phase 2: Provide a transmission line route map or sketch that includes line rights of way.

Provide a System Impact Study which will demonstrate conformance or non-conformance with NERC/WSCC, California Independent System Operator (Cal-ISO) and utility reliability and planning criteria with the following provisions:

1. *Identify major assumptions in the base cases including imports and exports to the system, major generation including hydro, load changes in the system and queue generation.*
2. *Analyze system for Power Flow for N-0, important N-1 and critical N-2 contingency conditions, and provide a list of overload criteria violations.*
3. *Analyze system for Transient Stability and Post-transient voltage conditions under critical N-1 and N-2 contingencies, and provide related plots, switching data and a list of voltage criteria violations (optional, data request will follow).*
4. *Provide a Short Circuit Study Report showing fault currents at important substation buses with and without the new generation and respective breaker interrupting ratings side by side (optional, data request will follow).*
5. *Identify the reliability and planning criteria utilized to determine the criteria violation.*
6. *Provide a list of contingencies evaluated for each study.*
7. *List mitigation measures considered (required) and those selected for all criteria violations (optional, data request will follow).*
8. *Provide power flow diagrams (MVA, % loading & P. U. voltage) for base cases with and without the project. Power flow diagrams must also be provided for all N-0, N-1 and N-2 studies where overloads or voltage violations occur.*
9. *Provide electronic copies of *.sav and *.drw GE PSLF and EPCL contingency and comparison files (if available).*

Response— A preliminary SIS has been prepared and is attached hereto.

2. Compliance with LORS (Appendix B[h][1][A]):

Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;

Information required to make AFC conform with regulations:

Phase 2: Please provide a statement that the project will comply with applicable laws, ordinances, regulations and standards.

Response: Phase 2 of the project will comply with applicable laws, ordinances, regulations, and standards.

3. LORS (Appendix B[h][2]):

A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).

Information required to make AFC conform with regulations:

Phase 2: Please provide a statement that the project will comply with applicable laws, ordinances, regulations and standards.

Response—The project will comply with applicable laws, ordinances, regulations, and standards.

4. Approval letters (Appendix B[h][4]):

A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.

Information required to make AFC conform with regulations:

Phase 2: Please indicate when CA ISO and Silicon Valley Power approval letters are expected.

Response—The CA ISO and Silicon Valley Power approval letters are expected near the end of March, after these agencies have reviewed the PG&E System Impact Study.

ATTACHMENT 6.0-S1

Preliminary

Interconnection Assessment

ATTACHMENT 6.0-S1
LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 2
PRELIMINARY INTERCONNECTION ASSESSMENT
[DRAFT]
March 5, 2004

EXECUTIVE SUMMARY

The purpose of this study was to identify any system reliability concerns, as well as potential congestion impacts, resulting from the addition of the Los Esteros Critical Energy Facility (LECEF) Phase 2 generation project.

The LECEF Phase 2 generation project is a proposed 320 MW combined-cycle plant to be located near the Los Esteros 230-kV Substation in San Jose, Santa Clara County, California. The preferred interconnection for Phase 2 is a 230-kV double-circuit overhead interconnection between the LECEF switchyard and the new Silicon Valley Power (SVP) Switching Station. The length of the 230-kV interconnection is approximately 200 feet. When the interconnection for Phase 2 is complete, the current Phase I interconnection with PG&E's Los Esteros-Nortech 115-kV line will be removed. The SVP Switching Station will be an extension of the Los Esteros 230-kV bus. By connecting the LECEF switchyard to the 230-kV SVP Switching Station, the power flow remains the same as for a Los Esteros Substation interconnection.

The limited screening-level analysis, contained herein, was limited to thermal overload analysis only. It did not consider voltage, transient stability, or short-circuit analysis. Based on the limited thermal analysis conducted under anticipated 2008 summer peak and off-peak conditions:

- There were no N-0 (normal condition) thermal overloads attributable to the LECEF Phase 2 generation project.
- There were no N-1 (single element out) thermal overloads attributable to the LECEF Phase 2 generation project.
- No mitigation measures would be required to reliably interconnect the LECEF Phase 2 generation project to the power system grid.

INTRODUCTION

This report outlines all study procedures and results of the interconnection of the Los Esteros Critical Energy Facility (LECEF) Phase 2 generation project to the existing power grid.

The purpose of the study is to identify any system reliability concerns as well as potential congestion impacts resulting from the addition of the LECEF Phase 2. The LECEF Phase 2 generation project is a proposed 320 MW combined-cycle plant to be located near the Los Esteros 230-kV Substation in San Jose, Santa Clara County, California.

PROJECT DESCRIPTION

Generation Plant & Electrical Interconnection

LECEF Phase I is a nominal 180 MW natural gas-fired peaking power plant consisting of four (4) simple-cycle combustion turbine generators. Phase 2 of the project proposal converts LECEF to combined-cycle operation. The combined-cycle conversion involves the addition of four (4) heat recovery steam

generators, one steam-turbine generator, a six-cell, plume-abated cooling tower, and ancillary equipment. LECEF Phase 2 will have a total combined nominal generating capacity of 320 MW.

The preferred electrical interconnection between the LECEF Phase 2 and the new Silicon Valley Power (SVP) Switching Station will consist of the following major facilities:

- Two (2) new 115/230-kV step up transformers
- Two (2) new overhead transmission lines connecting the LECEF 115-kV switchyard to the new transformers
- Two(2) new overhead transmission lines connecting the new transformers to the 230-kV SVP Switching Station

The overhead transmission lines and transformers will be rated to allow for the removal (or loss) of one of the circuits without limiting LECEF Phase 2 output. Since the interconnection will be contained entirely within the LECEF and SVP fences, no additional rights-of-way will be required.

The preferred interconnection for Phase 2 is a 230-kV double-circuit overhead interconnection between the LECEF switchyard and the new SVP Switching Station. The length of the 230-kV interconnection is approximately 200 feet.

When the interconnection for Phase 2 is complete, the current Phase I interconnection with PG&E's Los Esteros-Nortech 115-kV line will be removed. The SVP Switching Station will be an extension of the Los Esteros 230-kV bus. By connecting the LECEF switchyard to the 230-kV SVP Switching Station, the power flow remains the same as for a Los Esteros Substation connection.

SYSTEM RELIABILITY EVALUATION

A system reliability evaluation consists primarily of determining if there would be thermal overloads, that voltages are within criteria (not too high or low), and that the system is stable (the system should not oscillate excessively and generators should remain synchronized with one another). Additional criteria may include assurance that there is sufficient reactive power available. The evaluation of these criteria must be conducted for credible "emergency" conditions that the system might sustain, such as the loss of a single or double circuit line, a transformer, or a combination of these facilities. Planning analysis is conducted sufficiently in advance of potential system changes such that necessary system facility additions or modifications can take place in time to prevent a criteria violation. Performance of the transmission system is measured against the following planning criteria: the California ISO Reliability Criteria, the Western Electricity Coordinating Council (WECC) Reliability Criteria, and the North American Electric Reliability Council (NERC) Planning Standards.

Reliability Criteria

Performance of the transmission system is measured against the following planning criteria: California ISO Grid Planning Criteria, WECC Reliability Criteria, and NERC Planning Standards. If system reliability problems resulting from the interconnection of a generation project are discovered, the study will identify the system facilities or operational measure that will be necessary to mitigate reliability criteria violations. Addition of these new facilities would maintain and avoid the degradation of reliability to the transmission network.

Scope of Reliability Studies

A Preliminary Interconnection Assessment investigates a transmission interconnection for a new generation project. This Preliminary Interconnection Assessment evaluates the project's impact on:

- Thermal loading on power system equipment (i.e., transmission lines, transformers, series capacitors)

The following analysis was not performed as part of this Preliminary Interconnection Assessment:

- Post-transient voltage performance
- Transient stability of the power system (i.e., a critical contingency does not result in excessive oscillations or system collapse as a result of a new generator interconnecting to the Grid)
- Fault duty of power system equipment (i.e., breakers, switches)

BASE CASE ASSUMPTIONS

The LECEF combined-cycle conversion was modeled as four (4) heat recovery steam generators, one steam-turbine generator for a total of 340 MW. The project was studied under two (2) operating system conditions, anticipated 2008 summer peak and 2008 summer off-peak. PSLF one-line diagrams illustrating the San Jose electric transmission system, pre- and post-project, under anticipated 2008 summer peak load and 2008 summer off-peak conditions are included in **Appendix 5-A-I**. The one-line diagrams report MVA flow, percent (%) thermal loading, and p.u. voltage values.

Load flow studies were conducted for the conditions summarized on the following tables:

Table 1. Base Case Summary - 2008 Summer Peak

Base Case Parameter	Itemized Detail	Value
Bulk System	COI - Path 66 (North-to-South)	4,754 MW
	Path 15 (North-to-South)	787 MW
	Midway-Vincent - Path 26 (North-to-South)	2,961 MW
	PDCI (North-to-South)	3,100 MW
	Northern California Hydro	88%
	Helms Generation (1 Unit)	310 MW
PG&E Area Loads	Humboldt	118 MW
	N. Coast	1,209 MW
	N. Valley	733 MW
	Sacramento	1,077 MW
	Sierra	930 MW
	North Bay	517 MW
	East Bay	772 MW
	Diablo	1,501 MW
	S.F.	973 MW
	Peninsula	1,011 MW
	Stockton	1,170 MW
	Stanislaus	251 MW
	Yosemite	735 MW
	Fresno	1,799 MW
	Kern	1,258 MW
	Mission	1,535 MW
	De Anza	990 MW
	San Jose	2,018 MW
	Central Coast	637 MW
	Los Padres	433 MW
Non-PG&E Area Loads	Silicon Valley Power	470 MW
	SMUD	3,045 MW
	MID	745 MW
	TID	515 MW
	Western	209 MW
	LMUD	26 MW
	CDWR	0 MW
	NCPA	808 MW
	Redding	232 MW

Table 2. Base Case Summary - 2008 Summer Off-Peak

Base Case Parameter	Itemized Detail	Value
Bulk System	COI - Path 66 (North-to-South)	575 MW
	Path 15 (South-to-North)	509 MW
	Midway-Vincent - Path 26 (North-to-South)	1,633 MW
	PDCI (North-to-South)	2,000 MW
	Northern California Hydro	26%
	Helms Generation (1 Unit Pump Mode)	-350 MW
PG&E Area Loads	Humboldt	45 MW
	N. Coast	550 MW
	N. Valley	277 MW
	Sacramento	421 MW
	Sierra	421 MW
	North Bay	220 MW
	East Bay	448 MW
	Diablo	767 MW
	S.F.	445 MW
	Peninsula	477 MW
	Stockton	595 MW
	Stanislaus	128 MW
	Yosemite	390 MW
	Fresno	939 MW
	Kern	804 MW
	Mission	941 MW
	De Anza	517 MW
	San Jose	1,005 MW
	Central Coast	323 MW
	Los Padres	212 MW
Non-PG&E Area Loads	Silicon Valley Power	262 MW
	SMUD	1,194 MW
	MID	404 MW
	TID	269 MW
	Western	180 MW
	LMUD	10 MW
	CDWR	0 MW
	NCPA	396 MW
	Redding	91 MW

Generation Project Queue

The generation project queue was modeled in each of the power flow base cases to the best knowledge of the generation developer.

STUDY ASSUMPTIONS & METHODOLOGY

Power flow analysis was performed using the Version 13.2 of the General Electric Positive Sequence Load Flow (PSLF) software package.

Reported thermal overloads were limited to the condition where a modeled transmission component was loaded over 98% of its appropriate normal or emergency rating (as entered in the power flow database), and the incremental increase in component loading, between pre-project and post-project, exceeded 2%.

N-0 conditions were assessed with and without the LECEF Phase 2 generation project at 340 MW.

N-1 conditions were assessed with and without the LECEF Phase 2 generation project at 340 MW. 376 bus-to-bus transmission system outages within the following PG&E transmission planning areas were evaluated:

- Peninsula (Zone 310)
- Mission (Zone 316)
- De Anza (Zone 317)
- San Jose (Zone 318)
- Silicon Valley Power (Zone 321)

A tabular listing of all the transmission system outages evaluated, as part of this analysis, is included in **Appendix 5-A-II** of this report.

POWER FLOW ANALYSIS

CAISO Level "B" Contingency Analysis

2008 Summer Peak

N-0 conditions were assessed with and without the LECEF Phase 2 generation project at 340 MW. Under anticipated 2008 summer peak operating conditions, there were no N-0 thermal overloads identified, which were attributable to the LECEF Phase 2 generation project.

N-1 conditions were assessed with and without the LECEF Phase 2 generation project at 340 MW. 376 bus-to-bus transmission system outages within the PG&E area were evaluated. Under anticipated 2008 summer peak operating conditions, there were no N-1 thermal overloads identified, which were attributable to the LECEF Phase 2 generation project.

2008 Summer Off-Peak

N-0 conditions were assessed with and without the LECEF Phase 2 generation project at 340 MW. Under anticipated 2008 summer off-peak operating conditions, there were no N-0 thermal overloads identified, which were attributable to the LECEF Phase 2 generation project.

N-1 conditions were assessed with and without the LECEF Phase 2 generation project at 340 MW. 376 bus-to-bus transmission system outages within the PG&E area were evaluated. Under anticipated 2008 summer off-peak operating conditions, there were no N-1 thermal overloads identified, which were attributable to the LECEF Phase 2 generation project.

MITIGATION REQUIREMENTS

Based on the limited thermal analysis conducted under anticipated 2008 summer peak and off-peak conditions, no mitigation measures would be required to reliably interconnect the LECEF Phase 2 generation project to the power system grid.

POST-TRANSIENT ANALYSIS

No post-transient voltage analysis was performed as part of this Preliminary Interconnection Assessment. It is anticipated that the LECEF Phase 2 generation project would have no adverse effects on post-transient voltage performance within the local area.

TRANSIENT STABILITY ANALYSIS

No transient stability analysis was performed as part of this Preliminary Interconnection Assessment. It is anticipated that the LECEF Phase 2 generation project would have no adverse effects on transient stability performance within the local area. Transient stability analysis will be provided at a later date.

SHORT-CIRCUIT ANALYSIS

No short-circuit analysis was performed as part of this Preliminary Interconnection Assessment. Short-circuit analysis will be provided at a later date.

APPENDIX 5-A-I – Power Flow Diagrams

LOS ESTEROS CRITICAL ENERGY FACILITY 2

SUPPLEMENT TO THE AFC FOR DATA ADEQUACY

SUBMITTED: MARCH 2004

CHAPTER 6.0: TRANSMISSION SYSTEM ENGINEERING

APPENDIX 5-A-1, PAGES 7, 8, 9, & 10

NOTE: This technical information from the above pages is not generally available. Should you need the information from this appendix please contact:

Robert Worl, Project Manager
California Energy Commission
1516 9th Street
Sacramento, CA 95814

Phone: (916) 651-8853

APPENDIX 5-A-II – Evaluated Contingencies

OUTAGE NO.	OUTAGE TYPE	ACTION	OUTAGED ELEMENT
1	N-1	OPEN LINE	PITSBG E 230.00 "E. SHORE 230.00" "1" 1
2	N-1	OPEN LINE	PITSBG E 230.00 "E. SHORE 230.00" "1" 2
3	N-1	OPEN LINE	CAYETANO 230.00 "DOOLAN_C 230.00" "1" 1
4	N-1	OPEN LINE	CAYETANO 230.00 "VINEYD D 230.00" "1" 1
5	N-1	OPEN LINE	RCEC 230.00 "E. SHORE 230.00" "1" 1
6	N-1	OPEN LINE	RCEC 230.00 "E. SHORE 230.00" "2" 1
7	N-1	OPEN LINE	CASTROVL 230.00 "CV BART 230.00" "1" 1
8	N-1	OPEN LINE	CASTROVL 230.00 "NEWARK E 230.00" "1" 1
9	N-1	OPEN LINE	E. SHORE 230.00 "SANMATEO 230.00" "1" 1
10	N-1	OPEN LINE	E. SHORE 230.00 "SANMATEO 230.00" "2" 1
11	N-1	OPEN LINE	TES JCT 230.00 "NEWARK E 230.00" "1" 1
12	N-1	OPEN LINE	LS PSTAS 230.00 "NEWARK D 230.00" "1" 1
13	N-1	OPEN LINE	USWP-JRW 230.00 "DOOLAN_C 230.00" "1" 1
14	N-1	OPEN LINE	NEWARK D 230.00 "NEWARK E 230.00" "1" 1
15	N-1	OPEN LINE	NEWARK D 230.00 "RAVENSWD 230.00" "1" 1
16	N-1	OPEN LINE	NEWARK E 230.00 "NWK DIST 230.00" "1" 1
17	N-1	OPEN LINE	NWK DIST 230.00 "LS ESTRS 230.00" "1" 1
18	N-1	OPEN LINE	NWK DIST 230.00 "LS ESTRS 230.00" "1" 2
19	N-1	OPEN LINE	NWK DIST 230.00 "LS ESTRS 230.00" "1" 3
20	N-1	OPEN LINE	NWK DIST 230.00 "LS ESTRS 230.00" "1" 4
21	N-1	OPEN LINE	SANMATEO 230.00 "MARTIN C 230.00" "1" 1
22	N-1	OPEN LINE	SANMATEO 230.00 "MARTIN C 230.00" "1" 2
23	N-1	OPEN LINE	SANMATEO 230.00 "MARTIN C 230.00" "1" 3
24	N-1	OPEN LINE	RAVENSWD 230.00 "SANMATEO 230.00" "1" 1
25	N-1	OPEN LINE	RAVENSWD 230.00 "SANMATEO 230.00" "2" 1
26	N-1	OPEN LINE	MONTAVIS 230.00 "SLACTAP1 230.00" "1" 1
27	N-1	OPEN LINE	MONTAVIS 230.00 "SLACTAP2 230.00" "1" 1
28	N-1	OPEN LINE	MONTAVIS 230.00 "SARATOGA 230.00" "1" 1
29	N-1	OPEN LINE	MONTAVIS 230.00 "HICKS 230.00" "1" 1
30	N-1	OPEN LINE	SLACTAP1 230.00 "S.L.A.C. 230.00" "1" 1
31	N-1	OPEN LINE	SLACTAP1 230.00 "JEFFERSN 230.00" "1" 1
32	N-1	OPEN LINE	SLACTAP2 230.00 "S.L.A.C. 230.00" "1" 1
33	N-1	OPEN LINE	SLACTAP2 230.00 "JEFFERSN 230.00" "1" 1
34	N-1	OPEN LINE	JEFFERSN 230.00 "TRAN STN 230.00" "1" 1
35	N-1	OPEN LINE	SARATOGA 230.00 "VASONA 230.00" "1" 1
36	N-1	OPEN LINE	LS ESTRS 230.00 "SVP SS 230.00" "1" 1
37	N-1	OPEN LINE	VASONA 230.00 "METCALF 230.00" "1" 1
38	N-1	OPEN LINE	SVP SS 230.00 "NORTHERN 230.00" "1" 1
39	N-1	OPEN LINE	SVP_SS 230.00 "NORTHERN 230.00" "1" 2
40	N-1	OPEN LINE	DALY CTY 115.00 "DLY CTYP 115.00" "1" 1
41	N-1	OPEN LINE	DLY CTYP 115.00 "SERRMNTE 115.00" "1" 1
42	N-1	OPEN LINE	SHAWROAD 115.00 "MARTIN C 115.00" "6" 1
43	N-1	OPEN LINE	MILLBRAE 115.00 "SANMATEO 115.00" "1" 1
44	N-1	OPEN LINE	SFIA-MA 115.00 "EST GRND 115.00" "2" 1
45	N-1	OPEN LINE	SANMATEO 115.00 "SHAWROAD 115.00" "6" 1
46	N-1	OPEN LINE	SANMATEO 115.00 "SFIA-MA 115.00" "2" 1
47	N-1	OPEN LINE	SANMATEO 115.00 "BAY MDWS 115.00" "1" 1
48	N-1	OPEN LINE	SANMATEO 115.00 "BAY MDWS 115.00" "2" 1
49	N-1	OPEN LINE	SANMATEO 115.00 "BELMONT 115.00" "1" 1
50	N-1	OPEN LINE	SANMATEO 115.00 "RAVENSWD 115.00" "1" 1
51	N-1	OPEN LINE	SANMATEO 115.00 "BURLNGME 115.00" "4" 1
52	N-1	OPEN LINE	BELMONT 115.00 "BAIR 115.00" "1" 1
53	N-1	OPEN LINE	BAIR 115.00 "SHREDJCT 115.00" "1" 1
54	N-1	OPEN LINE	RAVENSWD 115.00 "BAIR 115.00" "1" 1
55	N-1	OPEN LINE	RAVENSWD 115.00 "CLY LNDG 115.00" "2" 1
56	N-1	OPEN LINE	RAVENSWD 115.00 "CLY LNG2 115.00" "1" 1
57	N-1	OPEN LINE	RAVENSWD 115.00 "AMES BS1 115.00" "1" 1
58	N-1	OPEN LINE	RAVENSWD 115.00 "AMES BS2 115.00" "1" 1
59	N-1	OPEN LINE	RAVENSWD 115.00 "PLO ALTO 115.00" "1" 1
60	N-1	OPEN LINE	RAVENSWD 115.00 "PLO ALTO 115.00" "2" 1
61	N-1	OPEN LINE	CLY LNDG 115.00 "PLO ALTO 115.00" "1" 1
62	N-1	OPEN LINE	CLY LNG2 115.00 "CLY LNDG 115.00" "1" 1
63	N-1	OPEN LINE	UAL TAP 115.00 "UAL COGN 115.00" "1" 1
64	N-1	OPEN LINE	UAL TAP 115.00 "SFIA 115.00" "5" 1
65	N-1	OPEN LINE	MILBTAP2 60.00 "CAROLNDS 60.00" "1" 1

66	N-1	OPEN LINE	TRAN STN	230.00	"MARTIN C	230.00"	"1"	1
67	N-1	OPEN LINE	TRAN STN	230.00	"MARTIN C	230.00"	"1"	2
68	N-1	OPEN LINE	SNTH TP1	60.00	"SNTH LNE	60.00"	"1"	1
69	N-1	OPEN LINE	SNTH TP1	60.00	"PACIFICA	60.00"	"1"	1
70	N-1	OPEN LINE	SNTH TP2	60.00	"SNTH LNE	60.00"	"1"	1
71	N-1	OPEN LINE	SNTH TP2	60.00	"PACIFJCT	60.00"	"1"	1
72	N-1	OPEN LINE	SN BRNOT	60.00	"SNTH TP1	60.00"	"1"	1
73	N-1	OPEN LINE	SN BRNOT	60.00	"SNANDRES	60.00"	"1"	1
74	N-1	OPEN LINE	SNANDRES	60.00	"MLLBRETP	60.00"	"1"	1
75	N-1	OPEN LINE	MILLBRAE	60.00	"MLLBRETP	60.00"	"1"	1
76	N-1	OPEN LINE	MLLBRETP	60.00	"MILBTAP2	60.00"	"1"	1
77	N-1	OPEN LINE	PACIFICA	60.00	"PACIFJCT	60.00"	"1"	1
78	N-1	OPEN LINE	BURLNGME	115.00	"MARTIN C	115.00"	"4"	1
79	N-1	OPEN LINE	SAN MATO	60.00	"BERESFRD	60.00"	"1"	1
80	N-1	OPEN LINE	SAN MATO	60.00	"ORACLE60	60.00"	"1"	1
81	N-1	OPEN LINE	BERESFRD	60.00	"HILLSDLE	60.00"	"1"	1
82	N-1	OPEN LINE	HILLSDLE	60.00	"HLLSDLJT	60.00"	"1"	1
83	N-1	OPEN LINE	HLLSDLJT	60.00	"CRYSTLSG	60.00"	"1"	1
84	N-1	OPEN LINE	HLLSDLJT	60.00	"HLF MNBY	60.00"	"1"	1
85	N-1	OPEN LINE	CRYSTLSG	60.00	"CAROLNDS	60.00"	"1"	1
86	N-1	OPEN LINE	RALSTON	60.00	"HLLSDLJT	60.00"	"1"	1
87	N-1	OPEN LINE	SAN CRLS	60.00	"BAIR	60.00"	"1"	1
88	N-1	OPEN LINE	BAIR	60.00	"REDWDTP1	60.00"	"1"	1
89	N-1	OPEN LINE	BAIR	60.00	"REDWDTP2	60.00"	"1"	1
90	N-1	OPEN LINE	REDWDTP1	60.00	"REDWOOD	60.00"	"1"	1
91	N-1	OPEN LINE	REDWDTP1	60.00	"BLHVNTP1	60.00"	"1"	1
92	N-1	OPEN LINE	REDWDTP2	60.00	"REDWOOD	60.00"	"1"	1
93	N-1	OPEN LINE	REDWDTP2	60.00	"BLHVNTP2	60.00"	"1"	1
94	N-1	OPEN LINE	BLLE HVN	60.00	"BLHVNTP1	60.00"	"1"	1
95	N-1	OPEN LINE	BLLE HVN	60.00	"BLHVNTP2	60.00"	"1"	1
96	N-1	OPEN LINE	BLHVNTP1	60.00	"CLY LNDG	60.00"	"1"	1
97	N-1	OPEN LINE	CLY LNDG	60.00	"S.R.I.	60.00"	"1"	1
98	N-1	OPEN LINE	CLY LNDG	60.00	"WSTNG JT	60.00"	"1"	1
99	N-1	OPEN LINE	LAS PLGS	60.00	"WOODSIDE	60.00"	"1"	1
100	N-1	OPEN LINE	EMRLD LE	60.00	"JEFFERSN	60.00"	"1"	1
101	N-1	OPEN LINE	EMRLD LE	60.00	"MNLOJCT2	60.00"	"1"	1
102	N-1	OPEN LINE	WTRSHDTP	60.00	"RALSTON	60.00"	"1"	1
103	N-1	OPEN LINE	WTRSHDTP	60.00	"WATRSHED	60.00"	"1"	1
104	N-1	OPEN LINE	WTRSHDTP	60.00	"JEFFERSN	60.00"	"1"	1
105	N-1	OPEN LINE	JEFFERSN	60.00	"WOODSIDE	60.00"	"1"	1
106	N-1	OPEN LINE	GLENWOOD	60.00	"S.R.I.	60.00"	"1"	1
107	N-1	OPEN LINE	GLENWOOD	60.00	"MNLO JCT	60.00"	"1"	1
108	N-1	OPEN LINE	MENLO	60.00	"MNLOJCT2	60.00"	"1"	1
109	N-1	OPEN LINE	MENLO	60.00	"MENLO G	60.00"	"1"	1
110	N-1	OPEN LINE	MNLO JCT	60.00	"STANFORD	60.00"	"1"	1
111	N-1	OPEN LINE	MNLO JCT	60.00	"MENLO G	60.00"	"1"	1
112	N-1	OPEN LINE	MNLOJCT2	60.00	"S.L.A.C.	60.00"	"1"	1
113	N-1	OPEN LINE	PACIFJCT	60.00	"HLF MNBY	60.00"	"1"	1
114	N-1	OPEN LINE	SN LNDRO	115.00	"DMTAR SL	115.00"	"1"	1
115	N-1	OPEN LINE	GRANT	115.00	"EASTSHRE	115.00"	"1"	1
116	N-1	OPEN LINE	GRANT	115.00	"EASTSHRE	115.00"	"2"	1
117	N-1	OPEN LINE	EASTSHRE	115.00	"MT EDEN	115.00"	"1"	1
118	N-1	OPEN LINE	EASTSHRE	115.00	"MT EDEN	115.00"	"2"	1
119	N-1	OPEN LINE	EASTSHRE	115.00	"DUMBARTN	115.00"	"1"	1
120	N-1	OPEN LINE	DUMBARTN	115.00	"NEWARK D	115.00"	"1"	1
121	N-1	OPEN LINE	JARVIS	115.00	"JV BART	115.00"	"1"	1
122	N-1	OPEN LINE	JARVIS	115.00	"CRYOGEN	115.00"	"1"	1
123	N-1	OPEN LINE	NEWARK D	115.00	"JARVIS	115.00"	"1"	1
124	N-1	OPEN LINE	NEWARK D	115.00	"NEWARK E	115.00"	"1"	1
125	N-1	OPEN LINE	NEWARK D	115.00	"NUMI JCT	115.00"	"2"	1
126	N-1	OPEN LINE	NEWARK D	115.00	"NORTHERN	115.00"	"1"	1
127	N-1	OPEN LINE	NEWARK D	115.00	"OAKDLTID	115.00"	"1"	1
128	N-1	OPEN LINE	NEWARK D	115.00	"OAKDLTID	115.00"	"2"	1
129	N-1	OPEN LINE	NEWARK E	115.00	"FREMNT	115.00"	"1"	1
130	N-1	OPEN LINE	NEWARK E	115.00	"FREMNT	115.00"	"2"	1
131	N-1	OPEN LINE	NEWARK E	115.00	"NEWARK F	115.00"	"1"	1
132	N-1	OPEN LINE	NEWARK E	115.00	"AMES BS1	115.00"	"1"	1

133	N-1	OPEN LINE	NEWARK E	115.00	"AMES BS1	115.00"	"3"	1			
134	N-1	OPEN LINE	NEWARK E	115.00	"AMES BS2	115.00"	"2"	1			
135	N-1	OPEN LINE	NEWARK F	115.00	"NUMI TAP	115.00"	"1"	1			
136	N-1	OPEN LINE	NEWARK F	115.00	"LCKHD J1	115.00"	"1"	1			
137	N-1	OPEN LINE	NEWARK F	115.00	"LCKHD J2	115.00"	"1"	1			
138	N-1	OPEN LINE	NEWARK F	115.00	"DIXON LD	115.00"	"1"	1			
139	N-1	OPEN LINE	NEWARK F	115.00	"ZNKER J2	115.00"	"1"	1			
140	N-1	OPEN LINE	NEWARK F	115.00	"ZNKER J1	115.00"	"1"	1			
141	N-1	OPEN LINE	NEWARK F	115.00	"MILPITAS	115.00"	"1"	1			
142	N-1	OPEN LINE	NEWARK F	115.00	"MILPITAS	115.00"	"2"	1			
143	N-1	OPEN LINE	NEWARK F	115.00	"NORTHERN	115.00"	"2"	1			
144	N-1	OPEN LINE	NUMI JCT	115.00	"JARVIS	115.00"	"2"	1			
145	N-1	OPEN LINE	NUMI JCT	115.00	"NUMI TAP	115.00"	"1"	1			
146	N-1	OPEN LINE	NUMI TAP	115.00	"NUMMI	115.00"	"1"	1			
147	N-1	OPEN LINE	SEAWEST	60.00	"ZONDWD	60.00"	"1"	1			
148	N-1	OPEN LINE	SEAWEST	60.00	"FLOWIND1	60.00"	"1"	1			
149	N-1	OPEN LINE	VASCO	60.00	"VASCJCT.	60.00"	"1"	1			
150	N-1	OPEN LINE	VASCO	60.00	"ALTAMONT	60.00"	"1"	1			
151	N-1	OPEN LINE	USWP-WKR	60.00	"SOUTH BY	60.00"	"1"	1			
152	N-1	OPEN LINE	USWP-WKR	60.00	"ALTAMONT	60.00"	"1"	1			
153	N-1	OPEN LINE	LIVERMRE	60.00	"LPOSTAS	60.00"	"1"	1			
154	N-1	OPEN LINE	LIVERMRE	60.00	"CALMAT60	60.00"	"1"	1			
155	N-1	OPEN LINE	LIVERMRE	60.00	"LIVRMR 2	60.00"	"1"	1			
156	N-1	OPEN LINE	ZONDWD	60.00	"USWP-FRK	60.00"	"1"	1			
157	N-1	OPEN LINE	RADUM	60.00	"IUKA TAP	60.00"	"1"	1			
158	N-1	OPEN LINE	USWP-FRK	60.00	"VASCJCT.	60.00"	"1"	1			
159	N-1	OPEN LINE	SAN RAMN	60.00	"E DUBLIN	60.00"	"1"	1			
160	N-1	OPEN LINE	VASCJCT.	60.00	"LPOSTAS	60.00"	"1"	1			
161	N-1	OPEN LINE	SUNOL	60.00	"DCTO JCT	60.00"	"1"	1			
162	N-1	OPEN LINE	DCTO JCT	60.00	"NEWARK	60.00"	"1"	1			
163	N-1	OPEN LINE	VINEYARD	230.00	"NEWARK D	230.00"	"1"	1			
164	N-1	OPEN LINE	VINEYARD	230.00	"VINEYD_D	230.00"	"1"	1			
165	N-1	OPEN LINE	PARKS TP	60.00	"RADUM	60.00"	"1"	1			
166	N-1	OPEN LINE	PARKS TP	60.00	"PARKS	60.00"	"1"	1			
167	N-1	OPEN LINE	LIVRMR 2	60.00	"NEWARK	60.00"	"1"	1			
168	N-1	OPEN LINE	IUKA_TAP	60.00	"KAISER	60.00"	"1"	1			
169	N-1	OPEN LINE	AMES DST	115.00	"NEWARK E	115.00"	"1"	1			
170	N-1	OPEN LINE	AMES BS1	115.00	"AMES BS2	115.00"	"1"	1			
171	N-1	OPEN LINE	AMES BS2	115.00	"AMES DST	115.00"	"1"	1			
172	N-1	OPEN LINE	WHISMAN	115.00	"MNTA VSA	115.00"	"1"	1			
173	N-1	OPEN LINE	MT VIEW	115.00	"MNTA VSA	115.00"	"1"	1			
174	N-1	OPEN LINE	STELLING	115.00	"WOLFE	115.00"	"1"	1			
175	N-1	OPEN LINE	STELLING	115.00	"MNTA VSA	115.00"	"1"	1			
176	N-1	OPEN LINE	WOLFE	115.00	"MNTA VSA	115.00"	"1"	1			
177	N-1	OPEN LINE	MNTA VSA	115.00	"PHLPS JT	115.00"	"1"	1			
178	N-1	OPEN LINE	MNTA VSA	115.00	"BRITTN	115.00"	"1"	1			
179	N-1	OPEN LINE	LCKHD J1	115.00	"MFT.FD J	115.00"	"1"	1			
180	N-1	OPEN LINE	LCKHD J1	115.00	"LAWRENCE	115.00"	"1"	1			
181	N-1	OPEN LINE	MFT.FD J	115.00	"MOFT.FLD	115.00"	"1"	1			
182	N-1	OPEN LINE	MFT.FD J	115.00	"LOCKHD 1	115.00"	"1"	1			
183	N-1	OPEN LINE	LCKHD J2	115.00	"LOCKHD 2	115.00"	"1"	1			
184	N-1	OPEN LINE	LCKHD J2	115.00	"AMD JCT	115.00"	"1"	1			
185	N-1	OPEN LINE	LAWRENCE	115.00	"PHLPS JT	115.00"	"1"	1			
186	N-1	OPEN LINE	BRITTN	115.00	"APP MAT	115.00"	"1"	1			
187	N-1	OPEN LINE	AMES J1A	115.00	"AMES BS1	115.00"	"1"	1			
188	N-1	OPEN LINE	AMES J1A	115.00	"MT VIEW	115.00"	"1"	1			
189	N-1	OPEN LINE	AMES J1A	115.00	"AMES J1B	115.00"	"1"	1			
190	N-1	OPEN LINE	AMES J1B	115.00	"AMES BS1	115.00"	"1"	1			
191	N-1	OPEN LINE	AMES J1B	115.00	"WHISMAN	115.00"	"1"	1			
192	N-1	OPEN LINE	LOS ALTS	60.00	"L.ALTS J	60.00"	"1"	1			
193	N-1	OPEN LINE	LOS ALTS	60.00	"LOYOLA	60.00"	"1"	1			
194	N-1	OPEN LINE	L.ALTS J	60.00	"WSTNG JT	60.00"	"1"	1			
195	N-1	OPEN LINE	LOYOLA	60.00	"MNTA VSA	60.00"	"1"	1			
196	N-1	OPEN LINE	MNTA VSA	60.00	"PRMNT J3	60.00"	"1"	1			
197	N-1	OPEN LINE	MNTA VSA	60.00	"PRMNT J1	60.00"	"1"	1			
198	N-1	OPEN LINE	MNTA VSA	60.00	"LOS GATS	60.00"	"1"	1			
199	N-1	OPEN LINE	PRMNT J3	60.00	"PRMNT J2	60.00"	"1"	1			

200	N-1	OPEN LINE	PRMNT J3	60.00	"BIG BASN	60.00"	"1"	1
201	N-1	OPEN LINE	PRMNT J1	60.00	"PRMNT J2	60.00"	"1"	1
202	N-1	OPEN LINE	KIFER	115.00	"FMC JCT	115.00"	"1"	1
203	N-1	OPEN LINE	KIFER	115.00	"PICO	115.00"	"1"	1
204	N-1	OPEN LINE	NORTHERN	115.00	"SCOTT	115.00"	"1"	1
205	N-1	OPEN LINE	NORTHERN	115.00	"SCOTT	115.00"	"2"	1
206	N-1	OPEN LINE	PICO	115.00	"SCOTT	115.00"	"1"	1
207	N-1	OPEN LINE	PICOST1A	13.80	"PICOST1B	13.80"	"1"	1
208	N-1	OPEN LINE	BROKAW	60.00	"SERRA	60.00"	"1"	1
209	N-1	OPEN LINE	CENTRAL	60.00	"SCOTT_60	60.00"	"1"	1
210	N-1	OPEN LINE	FIBRGLAS	60.00	"WALSH	60.00"	"1"	1
211	N-1	OPEN LINE	GIANERA	60.00	"NRTHRN60	60.00"	"2"	1
212	N-1	OPEN LINE	HOMESTED	60.00	"SCOTT 60	60.00"	"1"	1
213	N-1	OPEN LINE	JULIETTE	60.00	"CENTRAL	60.00"	"1"	1
214	N-1	OPEN LINE	KIFER 60	60.00	"FIBRGLAS	60.00"	"1"	1
215	N-1	OPEN LINE	KIFER_60	60.00	"LFYTE_T1	60.00"	"1"	1
216	N-1	OPEN LINE	KIFER 60	60.00	"LFYTE T2	60.00"	"1"	1
217	N-1	OPEN LINE	KIFER_60	60.00	"LFYTE_T3	60.00"	"1"	1
218	N-1	OPEN LINE	KIFER 60	60.00	"NORMN AV	60.00"	"1"	1
219	N-1	OPEN LINE	MATHEW	60.00	"BROKAW	60.00"	"1"	1
220	N-1	OPEN LINE	NORMN AV	60.00	"AGNW SVP	60.00"	"1"	1
221	N-1	OPEN LINE	SCOTT_60	60.00	"KIFER_60	60.00"	"1"	1
222	N-1	OPEN LINE	SCOTT 60	60.00	"ZENO	60.00"	"1"	1
223	N-1	OPEN LINE	SERRA	60.00	"HOMESTED	60.00"	"1"	1
224	N-1	OPEN LINE	TASMAN	60.00	"AGNW SVP	60.00"	"1"	1
225	N-1	OPEN LINE	URANIUM	60.00	"ZENO	60.00"	"1"	1
226	N-1	OPEN LINE	WALSH	60.00	"URANIUM	60.00"	"1"	1
227	N-1	OPEN LINE	NRTHRN60	60.00	"GIANERA	60.00"	"1"	1
228	N-1	OPEN LINE	NRTHRN60	60.00	"JULIETTE	60.00"	"1"	1
229	N-1	OPEN LINE	NRTHRN60	60.00	"TASMAN	60.00"	"1"	1
230	N-1	OPEN XFMR	RCEC CT1	18.00	"RCEC	230.00"	"1"	0
231	N-1	OPEN XFMR	RCEC CT2	18.00	"RCEC	230.00"	"1"	0
232	N-1	OPEN XFMR	RCEC ST1	18.00	"RCEC	230.00"	"1"	0
233	N-1	OPEN XFMR	SAN RAMN	60.00	"SANRAMON	230.00"	"1"	0
234	N-1	OPEN XFMR	EASTSHRE	115.00	"E. SHORE	230.00"	"1"	0
235	N-1	OPEN XFMR	EASTSHRE	115.00	"E. SHORE	230.00"	"2"	0
236	N-1	OPEN XFMR	LPOSTAS	60.00	"LS PSTAS	230.00"	"4"	0
237	N-1	OPEN XFMR	USWP_#3	9.11	"USWP-JRW	230.00"	"1"	0
238	N-1	OPEN XFMR	SANMATEO	115.00	"SANMATEO	230.00"	"5"	0
239	N-1	OPEN XFMR	SANMATEO	115.00	"SANMATEO	230.00"	"6"	0
240	N-1	OPEN XFMR	SANMATEO	115.00	"SANMATEO	230.00"	"7"	0
241	N-1	OPEN XFMR	RAVENSWD	115.00	"RAVENSWD	230.00"	"1"	0
242	N-1	OPEN XFMR	RAVENSWD	115.00	"RAVENSWD	230.00"	"2"	0
243	N-1	OPEN XFMR	MNTA VSA	115.00	"MONTAVIS	230.00"	"2"	0
244	N-1	OPEN XFMR	MNTA VSA	115.00	"MONTAVIS	230.00"	"4"	0
245	N-1	OPEN XFMR	MNTA VSA	115.00	"MONTAVIS	230.00"	"4A"	0
246	N-1	OPEN XFMR	MNTA VSA	60.00	"MONTAVIS	230.00"	"5"	0
247	N-1	OPEN XFMR	JEFFERSN	60.00	"JEFFERSN	230.00"	"1"	0
248	N-1	OPEN XFMR	NORTHERN	115.00	"NORTHERN	230.00"	"1"	0
249	N-1	OPEN XFMR	SAN MATO	60.00	"SANMATEO	115.00"	"8"	0
250	N-1	OPEN XFMR	BAIR	60.00	"BAIR	115.00"	"1"	0
251	N-1	OPEN XFMR	CLY LNDG	60.00	"CLY LNDG	115.00"	"2"	0
252	N-1	OPEN XFMR	CLY LNDG	60.00	"CLY LNG2	115.00"	"1"	0
253	N-1	OPEN XFMR	SANMATEO	115.00	"SMATEO3M	115.00"	"3"	0
254	N-1	OPEN XFMR	SAN MATO	60.00	"SMATEO3M	115.00"	"3"	0
255	N-1	OPEN XFMR	MILLBRAE	115.00	"MILLBRAE	60.00"	"1"	0
256	N-1	OPEN XFMR	NEWARK D	115.00	"NWRK 2 M	115.00"	"1"	0
257	N-1	OPEN XFMR	NEWARK	60.00	"NWRK 2 M	115.00"	"1"	0
258	N-1	OPEN XFMR	NEWARK D	230.00	"NEWARK D	115.00"	"9"	0
259	N-1	OPEN XFMR	NEWARK D	230.00	"NEWARK E	115.00"	"7"	0
260	N-1	OPEN XFMR	NEWARK E	230.00	"NEWARK F	115.00"	"11"	0
261	N-1	OPEN XFMR	KIFER_60	60.00	"KIFER	115.00"	"KA"	0
262	N-1	OPEN XFMR	KIFER 60	60.00	"KIFER	115.00"	"KB"	0
263	N-1	OPEN XFMR	NRTHRN60	60.00	"NORTHERN	115.00"	"NA"	0
264	N-1	OPEN XFMR	NRTHRN60	60.00	"NORTHERN	115.00"	"NB"	0
265	N-1	OPEN XFMR	SCOTT_60	60.00	"SCOTT	115.00"	"SA"	0
266	N-1	OPEN XFMR	SCOTT 60	60.00	"SCOTT	115.00"	"SB"	0

267	N-1	OPEN XFMR	PICO	115.00	"PICOST1A	13.80"	"1"	0
268	N-1	OPEN XFMR	PICO	115.00	"PICOST1B	13.80"	"1"	0
269	N-1	OPEN XFMR	CSC GNRA	13.80	"GIANERA	60.00"	"1"	0
270	N-1	OPEN XFMR	CSC_GNRA	13.80	"GIANERA	60.00"	"2"	0
271	N-1	OPEN XFMR	CSC COG.	12.00	"LFYTE T1	60.00"	"1"	0
272	N-1	OPEN LINE	METCALF	230.00	"MONTAVIS	230.00"	"3"	1
273	N-1	OPEN LINE	METCALF	230.00	"HICKS	230.00"	"1"	1
274	N-1	OPEN LINE	METCALF	230.00	"LS ESTRS	230.00"	"1"	1
275	N-1	OPEN LINE	METCALF	230.00	"LS ESTRS	230.00"	"1"	2
276	N-1	OPEN LINE	METCALF	230.00	"LS ESTRS	230.00"	"1"	3
277	N-1	OPEN LINE	METCALF	230.00	"LS ESTRS	230.00"	"1"	4
278	N-1	OPEN LINE	METCALF	230.00	"CAL MEC	230.00"	"4"	1
279	N-1	OPEN LINE	METCALF	230.00	"MOSSLND2	230.00"	"1"	1
280	N-1	OPEN LINE	METCALF	230.00	"MOSSLND1	230.00"	"1"	1
281	N-1	OPEN LINE	CAL MEC	230.00	"MONTAVIS	230.00"	"4"	1
282	N-1	OPEN LINE	DIXON LD	115.00	"MABURY J	115.00"	"1"	1
283	N-1	OPEN LINE	ZNKER J2	115.00	"ZANKER	115.00"	"1"	1
284	N-1	OPEN LINE	ZNKER J2	115.00	"KIFER	115.00"	"1"	1
285	N-1	OPEN LINE	ZNKER J1	115.00	"AGNEW J	115.00"	"1"	1
286	N-1	OPEN LINE	ZNKER J1	115.00	"TRIMBLE	115.00"	"1"	1
287	N-1	OPEN LINE	AGNEW J	115.00	"AGNEW	115.00"	"1"	1
288	N-1	OPEN LINE	TRIMBLE	115.00	"MONTAGUE	115.00"	"1"	1
289	N-1	OPEN LINE	TRIMBLE	115.00	"SJ B E	115.00"	"1"	1
290	N-1	OPEN LINE	ELPT_SJ1	115.00	"ELPT_SJ2	115.00"	"1"	1
291	N-1	OPEN LINE	ELPT SJ1	115.00	"ELPT SJ2	115.00"	"2"	1
292	N-1	OPEN LINE	FMC	115.00	"SJ B E	115.00"	"1"	1
293	N-1	OPEN LINE	FMC	115.00	"FMC JCT	115.00"	"1"	1
294	N-1	OPEN LINE	SJ B E	115.00	"SJ B F	115.00"	"1"	1
295	N-1	OPEN LINE	SN JSE A	115.00	"ELPT SJ1	115.00"	"1"	1
296	N-1	OPEN LINE	SN JSE A	115.00	"ELPT_SJ1	115.00"	"1"	2
297	N-1	OPEN LINE	SN JSE A	115.00	"SJ B F	115.00"	"1"	1
298	N-1	OPEN LINE	SJ B F	115.00	"MARKHM J	115.00"	"1"	1
299	N-1	OPEN LINE	EL PATIO	115.00	"ELPT SJ2	115.00"	"1"	1
300	N-1	OPEN LINE	EL PATIO	115.00	"ELPT_SJ2	115.00"	"1"	2
301	N-1	OPEN LINE	EL PATIO	115.00	"IBM-HR J	115.00"	"1"	1
302	N-1	OPEN LINE	EL PATIO	115.00	"BAILY J3	115.00"	"2"	1
303	N-1	OPEN LINE	IBM-HR J	115.00	"IBM-HRRS	115.00"	"1"	1
304	N-1	OPEN LINE	IBM-HR J	115.00	"MTCALF D	115.00"	"1"	1
305	N-1	OPEN LINE	SWIFT	115.00	"waksha j	115.00"	"1"	1
306	N-1	OPEN LINE	SWIFT	115.00	"MTCALF E	115.00"	"1"	1
307	N-1	OPEN LINE	MILPITAS	115.00	"waksha j	115.00"	"1"	1
308	N-1	OPEN LINE	MARKHMJ2	115.00	"MARKHAM	115.00"	"1"	1
309	N-1	OPEN LINE	MARKHMJ2	115.00	"EVRGRN J	115.00"	"1"	1
310	N-1	OPEN LINE	MCKEE	115.00	"MABURY J	115.00"	"1"	1
311	N-1	OPEN LINE	MCKEE	115.00	"PIERCY	115.00"	"1"	1
312	N-1	OPEN LINE	WAUKESHA	115.00	"waksha j	115.00"	"1"	1
313	N-1	OPEN LINE	MABURY J	115.00	"MABURY	115.00"	"1"	1
314	N-1	OPEN LINE	MARKHM J	115.00	"MARKHAM	115.00"	"1"	1
315	N-1	OPEN LINE	MARKHM J	115.00	"EVRGRN 1	115.00"	"1"	1
316	N-1	OPEN LINE	EVRGRN 2	115.00	"EVRGRN 1	115.00"	"1"	1
317	N-1	OPEN LINE	EVRGRN 2	115.00	"EVRGRN J	115.00"	"2"	1
318	N-1	OPEN LINE	STONE J	115.00	"MARKHMJ2	115.00"	"1"	1
319	N-1	OPEN LINE	STONE J	115.00	"GEN ELEC	115.00"	"1"	1
320	N-1	OPEN LINE	STONE J	115.00	"STONE	115.00"	"1"	1
321	N-1	OPEN LINE	EVRGRN 1	115.00	"MTCALF E	115.00"	"1"	1
322	N-1	OPEN LINE	EVRGRN 1	115.00	"MTCALF E	115.00"	"1"	2
323	N-1	OPEN LINE	EDENVALE	115.00	"EDNVL J3	115.00"	"1"	1
324	N-1	OPEN LINE	EDENVALE	115.00	"BAILY J2	115.00"	"1"	1
325	N-1	OPEN LINE	EDNVL J1	115.00	"MTCALF D	115.00"	"1"	1
326	N-1	OPEN LINE	EDNVL J1	115.00	"EDNVL J3	115.00"	"1"	1
327	N-1	OPEN LINE	MTCALF D	115.00	"MTCALF E	115.00"	"1"	1
328	N-1	OPEN LINE	MTCALF D	115.00	"MRGN HIL	115.00"	"1"	1
329	N-1	OPEN LINE	MTCALF D	115.00	"BAILY J3	115.00"	"2"	1
330	N-1	OPEN LINE	MTCALF D	115.00	"BAILY J2	115.00"	"1"	1
331	N-1	OPEN LINE	MTCALF D	115.00	"MORGN J1	115.00"	"1"	1
332	N-1	OPEN LINE	MTCALF E	115.00	"CYTE PMP	115.00"	"1"	1
333	N-1	OPEN LINE	EVRGRN J	115.00	"MTCALF E	115.00"	"2"	1

334	N-1	OPEN LINE	EVRGRN J	115.00	"MTCALF E	115.00"	"2"	2
335	N-1	OPEN LINE	MRGN HIL	115.00	"LLAGAS	115.00"	"1"	1
336	N-1	OPEN LINE	LLAGAS	115.00	"GILROY F	115.00"	"1"	1
337	N-1	OPEN LINE	LLAGAS	115.00	"MORGN J2	115.00"	"1"	1
338	N-1	OPEN LINE	BAILY J3	115.00	"BAILY J1	115.00"	"1"	1
339	N-1	OPEN LINE	BAILY J1	115.00	"BAILY J2	115.00"	"1"	1
340	N-1	OPEN LINE	MORGN J1	115.00	"MORGN J2	115.00"	"1"	1
341	N-1	OPEN LINE	MORGN J1	115.00	"GRN VLY1	115.00"	"1"	1
342	N-1	OPEN LINE	MORGN J2	115.00	"GRN VLY2	115.00"	"1"	1
343	N-1	OPEN LINE	PIERCY	115.00	"MTCALF E	115.00"	"1"	1
344	N-1	OPEN LINE	LS ESTRS	115.00	"AGNEW	115.00"	"1"	1
345	N-1	OPEN LINE	LS ESTRS	115.00	"MONTAGUE	115.00"	"1"	1
346	N-1	OPEN LINE	LS ESTRS	115.00	"TRIMBLE	115.00"	"1"	1
347	N-1	OPEN LINE	NORTECH	115.00	"NORTHERN	115.00"	"1"	1
348	N-1	OPEN LINE	GILROYTP	115.00	"GILROY	115.00"	"1"	1
349	N-1	OPEN LINE	GILROYTP	115.00	"GILROY F	115.00"	"1"	1
350	N-1	OPEN LINE	GILROYPK	115.00	"GILROYTP	115.00"	"1"	1
351	N-1	OPEN LINE	MABURY	60.00	"JENING J	60.00"	"1"	1
352	N-1	OPEN LINE	JENING J	60.00	"EVRGRN J	60.00"	"1"	1
353	N-1	OPEN LINE	EVERGREN	60.00	"EVRGRN J	60.00"	"1"	1
354	N-1	OPEN LINE	EVERGREN	60.00	"SENTER J	60.00"	"1"	1
355	N-1	OPEN LINE	EVRGRN J	60.00	"SENTER	60.00"	"1"	1
356	N-1	OPEN LINE	SENTER	60.00	"SENTER J	60.00"	"1"	1
357	N-1	OPEN LINE	SENTER J	60.00	"ALMADEN	60.00"	"1"	1
358	N-1	OPEN LINE	ALMADEN	60.00	"LOS GATS	60.00"	"1"	1
359	N-1	OPEN XFMR	METCALF	230.00	"METCALF	500.00"	"11"	0
360	N-1	OPEN XFMR	METCALF	230.00	"METCALF	500.00"	"12"	0
361	N-1	OPEN XFMR	METCALF	230.00	"METCALF	500.00"	"13"	0
362	N-1	OPEN XFMR	MNTA VSA	115.00	"MONTAVIS	230.00"	"3"	0
363	N-1	OPEN XFMR	LS ESTRS	115.00	"LS ESTRS	230.00"	"3"	0
364	N-1	OPEN XFMR	LS ESTRS	115.00	"LS ESTRS	230.00"	"4"	0
365	N-1	OPEN XFMR	MTCALF D	115.00	"METCALF	230.00"	"1"	0
366	N-1	OPEN XFMR	MTCALF D	115.00	"METCALF	230.00"	"4"	0
367	N-1	OPEN XFMR	MTCALF E	115.00	"METCALF	230.00"	"2"	0
368	N-1	OPEN XFMR	MTCALF E	115.00	"METCALF	230.00"	"3"	0
369	N-1	OPEN XFMR	EVERGREN	60.00	"EVRGRN 2	115.00"	"1"	0
370	N-1	OPEN LINE	NORTECH	115.00	"LECEFTAP	115.00"	"1"	1
371	N-1	OPEN LINE	LECEFTAP	115.00	"CP LECEF	115.00"	"1"	1
372	N-1	OPEN LINE	LECEFTAP	115.00	"LS ESTRS	115.00"	"1"	1
373	N-1	OPEN LINE	LS ESTRS	115.00	"NORTECH	115.00"	"1"	1
374	N-1	OPEN XFMR	CP LECEF	115.00	"SVP SS	230.00"	"1"	0
375	N-1	OPEN XFMR	CP LECEF	115.00	"SVP_SS	230.00"	"2"	0
376	N-1	OPEN XFMR	LECEFST1	13.80	"CP LECEF	115.00"	"1"	0

8.1 Air Quality

1. Completeness letter (Appendix B[g][8][A]):

The information necessary for the air pollution control district where the project is located to complete a Determination of Compliance.

Information required to make AFC conform with regulations:

Please submit a District Completeness Letter. The BAAQMD received the application on January 14, 2004. According to District Rule 2-2-402, the district is allowed 15 working days (i.e. until February 5) to file a Completeness Letter.

Response—The letter from Mr. Dennis Jang, Air Quality Engineer, Engineering Division, Bay Area Air Quality Management District, to Mr. Bob Worl of the California Energy Commission, dated February 9, 2004, documents the BAAQMD's finding that the Authority to Construct permit application for the project is complete.

8.2 Biological Resources

1. Existing site conditions (Appendix B[g][1]):

...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.

Information required to make AFC conform with regulations:

The applicant performed a source test of start-up emission and discovered that the estimate of emissions was incorrect in the original AFC. The estimate of emissions from start-up and shut down has nearly quadrupled (see Section 8.1, page 8.1-13). Phase 1 calculations of nitrogen emissions did not account for this large increase. The Phase 1 calculations by the applicant are still based only on baseload for 8760 hours without any accounting for start-up and shutdown hours. The Phase 1 nitrogen emission should be around 93 tons per year (TPY) not 74.9 TPY, or about 20% higher. Please provide revised ISCST3 nitrogen deposition modeling scenarios using the worst case scenario (as defined in the original proceedings' Data Requests 147 to 149) for the following case studies:

1. *Maximum predicted emissions from Phase 1 operation*
2. *Actual emissions from the past 365 days of operation*
3. *Maximum predicted emissions from Phase 2.*

Provide a discussion and analysis of the case studies and explain any differences in outcomes.

Please discuss any measures proposed to mitigate adverse impacts to biological resources (see Appendix B(h)(4)).

Response—While Applicant has requested the evaluation of a higher startup emission rate than originally proposed for the project, Applicant has also stated that "This change in assumptions for the maximum hourly NOx emission rate will not affect LECEF's ability to comply with the existing limits on daily and annual NOx emissions" (p. 8.1-13 of the AFC). Applicant is not requesting any increase in allowable daily or annual NOx emissions. As stated on p. 8.1-13 of the AFC, "With the exception of SO_2 and PM_{10}, these emission rates are identical to the limits contained in the CEC conditions of certification and the BAAQMD Permit to Operate." The annual NOx emissions from Phase 1 will not change as a result of the proposed change in the startup emission rates. The relicensed facility will still be required to maintain annual NOx emissions at or below the permitted annual maximum of 74.9 tons per year. Compliance with this limit will be ensured through enforcement, by the BAAQMD, of the existing NOx emission limits contained in the District's permit. Likewise, ammonia emissions will be unaffected, and will be enforced by the BAAQMD.

Because annual NOx emissions from the facility will not increase, annual nitrogen emissions (which result from both NOx and ammonia) will not increase. Therefore, no revisions are necessary to the nitrogen deposition modeling previously provided for Phase 1.

A new analysis of nitrogen deposition impacts from Phase 2 of the project will be provided during the discovery phase of the proceeding. This analysis will be based on the maximum predicted nitrogen emissions from Phase 2. At that time, the Applicant will provide a discussion and analysis of the predicted Phase 2 nitrogen deposition impacts and will discuss any measures needed to mitigate adverse impacts on biological resources, if any. Applicant anticipates being able to provide this analysis within 30 days after receipt of the data request.

2. Mitigation (Appendix B[g][13][E](i)):

All measures proposed to avoid and/or reduce any adverse impacts;

Information required to make AFC conform with regulations:

In the original proceeding, the operation and closure of LECEF required mitigation measures in order to reduce impacts to less than significant levels. The applicant should submit a discussion of measures that apply to the operation and closure of the Phase 1 continued operation. The applicant should propose any new measures that may be required as a result of the proposed changes in Phase 1 operation [see Appendix B (g) (1)] and Phase 2 construction and operation.

Response—The Biological Resources Mitigation Implementation and Monitoring Plan for Phase 1 considered several potential impacts to biological resources of LECEF operation and closure. According to the BRMIMP, there would be no significant adverse impacts from operations resulting from cooling tower drift, power plant noise, or storm water discharge, or from operation of the recycled water supply and return lines.

Potential impacts from the operation of the transmission line could result from avian collisions. These are mitigated, however, by the reduction of exterior lighting effects that might attract birds near the lines, and the use of "raptor-friendly" transmission line design. Potential impacts from operation of the storm water outfall are mitigation by Best Management Practices as required and specified in the Storm Water Pollution Prevention Plan for the project. Adverse impacts could result from operation of the natural gas pipeline if there were leakage of the gas pipeline leading to a fire. This is an unlikely occurrence, however, which pipeline operation practices are designed to prevent.

Decommissioning of the project would cause impacts similar to those of constructing the project, except that there would be no conversion of wildlife habitat involved in the decommissioning. Mitigation measures for these potential impacts, if needed, should be developed at the time of decommissioning so that they can take into consideration any relevant biological resources issues at the time of decommissioning.

Applicant provided enhancements for Phase 1 in recognition of potential indirect impacts to serpentine bunchgrass ecosystem due to nitrogen deposition (i.e., the purchase and permanent dedication of 40 acres of prime serpentine habitat and provision of an endowment to manage the habitat in perpetuity). There will be no increase in nitrogen emissions associated with continued operation of Phase 1. With regard to Phase 2 operations, Applicant is currently working on new nitrogen deposition analyses and will provide this analysis within 30 days of receipt of a data request.

No additional mitigation measures are proposed for Phase 2 operation or closure. For Phase 2 construction, Applicant proposes a pre-construction survey of the area within 500 feet of the construction laydown area for nesting birds, in accordance with the Phase 1 BRMIMP. These surveys will be conducted 30 days before construction begins, and again within 48 hours of the start of construction. If nest are found without eggs or young, the nests will be removed. If nesting birds with eggs or young are found during the surveys, the Applicant will coordinate with California Department of Fish and Game for possible relocation or rehabilitation at an approved wildlife rehabilitation center.

3. Mitigation (Appendix B[g][13](E)(ii)):

All measures proposed to mitigate any adverse impacts, including any proposals for off-site mitigation; and

Information required to make AFC conform with regulations:

See Appendix B (g) (13) (E) (i)

Response—Please see previous response.

4. Employee Awareness Program (Appendix B[g][13](E)(iii)):

Any educational programs proposed to enhance employee awareness in order to protect biological resources.

Information required to make AFC conform with regulations:

See Appendix B (g) (13) (E) (i)

Response—The Applicant has conducted an employee awareness program for construction and operation of Phase 1, in conformance with Condition Bio-4 in the Commission Decision on Phase 1. The Applicant does not propose to conduct an employee awareness program for Phase 2, since it is not anticipated that employee actions during project construction will have a significant potential to harm biological resources.

5. Monitoring program (Appendix B[g][13](F)):

A discussion of compliance and monitoring programs proposed to ensure the effectiveness of mitigation measures incorporated into the project

Information required to make AFC conform with regulations:

See Appendix B (g) (13) (E) (i)

Response—Construction of Phase 2 will take place entirely within the fenceline of the existing (Phase 1) facility and in the immediately adjacent construction laydown area. Phase 2 operational activities will also take place within the existing fenceline. Therefore, due to the low probability of biological resources impacts during construction and operation of the project (operation of Phase 1 and construction and operation of Phase 2), it is not necessary to conduct biological resources monitoring programs for project operation or construction of Phase 2.

Potential impacts can be avoided by pre-construction reconnaissance to ensure that there is no injury to nesting birds or other species near the construction zone.

6. LORS table (Appendix B[h][1](A)):

Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;

Information required to make AFC conform with regulations:

Provide a revised Table 8.2-4 which includes reference to page numbers (section numbers can be accepted) in the application wherein conformance is discussed. This may require inserting discussion into the text which will be covered by the applicant's response to subsection (h) (2).

Response—Table 8.2-S1 is a revised version of AFC Table 8.2-4 including references to section numbers where conformance is discussed.

7. Conformity of project (Appendix B[h][2]):

A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).

Information required to make AFC conform with regulations:

Section 8.2.6 states the applicant has taken measures to mitigate impacts (p. 8.2-22), but Section 8.2.4 says no measures are required (p. 8.2-22). However, Table 8.2-4 stated the applicant is in compliance with the Federal Endangered Species Act because of "avoidance". Please provide a discussion of the mitigation and avoidance measures that are proposed by the applicant for Phase 1 continued operation and the mitigation and any avoidance measures that are proposed for Phase 2. Provide revisions to Table 8.2-4 as needed.

Response—Table 8.2-S1 is a revised version of AFC Table 8.2-4 including references to section numbers where conformance is discussed.

8. Agency contact (Appendix B[h][3]):

The name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for the agency.

Information required to make AFC conform with regulations:

Provide the title and address of the individuals identified as agency contacts.

Response—Table 8.2-S1 lists biological resources agency contacts for the project.

9. PSD Permit (Appendix B[h][4]):

A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.

Information required to make AFC conform with regulations:

There is no discussion of the applicant's initial steps to contact U.S. Fish and Wildlife Service (USFWS) regarding a permit to continue operations of Phase 1 for more than the 3 years with different nitrogen emission parameters nor for a permit to increase nitrogen emissions in Phase 2. The USFWS has enforcement responsibility through Section 9 of the Federal Endangered Species Act that prohibits "take" of endangered species without a proper permit. Provide a schedule and summary of your plans to obtain a permit from USFWS, if required.

*The AFC states a PSD is not required. Staff's Phase 2 emissions calculation is greater than 100 TPY (1105.6 lbs/day * 365 days * 2000 lbs/ton = 100.8 TPY) which would qualify the project for PSD permit review and because this is a federal permit, possible consultation with the USFWS. Provide a discussion of how operation's maximum yearly emissions will be kept below 100 TPY in perpetuity (without variance). Provide a summary of discussions you have had with or between BAAQMD and the USFWS on the increased nitrogen emissions issue.*

Response—Applicant has not contacted USFWS regarding the continuation of Phase 1 operations because the project enhancements provided prior to startup of Phase 1 (i.e., the purchase and permanent dedication of 40 acres of prime serpentine habitat and provision of an endowment to manage the habitat in perpetuity) more than fully offset potential impacts associated with the continued operation of LECEF. The Applicant has had no discussions with BAAQMD or the USFWS regarding nitrogen emissions from the relicensing of Phase 1, as there will be no increase in nitrogen emissions associated with the relicensing of Phase 1. With regard to Phase 2 operations, Applicant is currently working on new nitrogen deposition analyses and, as noted above, will provide this analysis within 30 days of receipt of a data request.

Applicant continues to believe that a PSD permit is not required for Phase 2 of the project. Applicant has proposed to cap annual NOx emissions at 99.2 tons per year (Table 8.1-39, Note [d], of the AFC). Compliance with this emissions cap will be determined through continuous emissions monitoring and the limit will be enforceable by both the BAAQMD and the EPA. Under District and federal regulation, a PSD permit is not required for the facility as long as its permitted emissions remain below 100 tons per year for all pollutants.

Table 8.2-S1. Laws, ordinances, regulations, and standards for biological resources.

LORS	Purpose	Regulating Agency and Contact	Permit or Approval	Project Conformity/AFC Section
Federal				
Endangered Species Act of 1973 and implementing regulations, Title 16 United States Code (USC) §1531 et seq. (16 USC 1531 et seq.), Title 50 Code of Federal Regulations (CFR) §17.1 et seq. (50 CFR 17.1 et seq.).	Designates and protects federally threatened and endangered plants and animals and their critical habitat.	USFWS 2800 Cottage Way Sacramento, CA Cecilia Brown (916) 414-6625 NOAA Fisheries 777 Sonoma Avenue Santa Rosa, California Steve Edmundson (707) 575-6050	Issues, Biological Opinion, or Authorization with Conditions after review of project impacts.	Applicant will avoid take of any listed species. Sections 8.2.2.1, 8.2.3.1, 8.2.3.2, 8.2.5, (pp. 8.2-16 to 8.2-22)
Section 404 of Clean Water Act of 1977 (33 USC 1251 et seq., 33 CFR §§320 and 323).	Gives the USACE authority to regulate discharges of dredge or fill material into waters of the United States, including wetlands.	U.S. Army Corps of Engineers San Francisco District 333 Market Street San Francisco, CA Holly Costa (415) 977-8438	Permit for permanent storm water outfall to Coyote Creek	Phases 1 and 2 will operate under this permit.(expected 2004). Sections 8.2.2.1, 8.2.3.1, 8.2.7 (pages 8.2-18, 8.2-21, and 8.2-23)
Section 401 of Clean Water Act of 1977.	Requires the applicant to conduct water quality impact analysis for the project when using 404 permits and for discharges to waterways.	San Francisco Bay Regional Water Quality Control Board 1515 Clay Street, Suite 1400 Oakland, California Brian Wines (510) 622-2380	Water Quality Certification associated with permanent storm water outfall	Phases 1 and 2 will operate under this permit.(expected 2004). Sections 8.2.2.1, 8.2.3.1, 8.2.7 (pages 8.2-18, 8.2-21, and 8.2-23)
Migratory Bird Treaty Act 16 USC §§703-711	Prohibits the non-permitted take of migratory birds.	USFWS 2800 Cottage Way Sacramento, CA Cecilia Brown (916) 414-6625 CDFG	None	Applicant will avoid the riparian habitat where birds are likely to nest. Sections 8.2.2.1, 8.2.3.1, 8.2.3.2, 8.2.5, (pp. 8.2-16 to

Table 8.2-S1. Laws, ordinances, regulations, and standards for biological resources.

LORS	Purpose	Regulating Agency and Contact	Permit or Approval	Project Conformity/AFC Section
		7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500		8.2-22)
State				
California Endangered Species Act of 1984, Fish and Game Code, §2050 through §2098.	Protects California's endangered and threatened species.	CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Issues 2081 Authorization for incidental take if necessary.	Applicant will avoid habitats likely to support listed species. Sections 8.2.2.1, 8.2.3.1, 8.2.3.2, 8.2.5, (pp. 8.2-16 to 8.2-22)
Fish and Game Code Fully Protected Species. §3511: Fully Protected birds §4700: Fully Protected mammals §5050: Fully Protected reptiles and amphibians §5515: Fully Protected fishes	Prohibits the taking of listed plants and animals that are Fully Protected in California.	CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Reviews AFC to determine if there will be impacts to Ecological Reserves.	Applicant will avoid habitats likely to support protected species. Sections 8.2.2.1, 8.2.3.1, 8.2.3.2, 8.2.5, (pp. 8.2-16 to 8.2-22)
Title 14, California Code of Regulations (CCR) §§670.2 and 670.5.	Lists plants and animals of California declared to be threatened or endangered.	CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Issues BO with Conditions after review of BA.	Section 8.2.1.5 Table 8.2-1
Fish and Game Code §1930, Significant Natural Areas	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitats. Listed in the CNDDB.	CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Reviews AFC to determine if there will be impacts to Ecological Reserves.	No SNA's identified in project vicinity. Section 8.2-1, pp. 8.2-1 to 8.2-3
Fish and Game Code §1580, Designated Ecological Reserves	The CDFG commission designates land and water areas as significant wildlife habitats to be preserved in	CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Reviews AFC to determine if there will be impacts to Ecological Reserves.	No ecological reserves in project vicinity. Section 8.2-1, pp. 8.2-1 to

Table 8.2-S1. Laws, ordinances, regulations, and standards for biological resources.

LORS	Purpose	Regulating Agency and Contact	Permit or Approval	Project Conformity/AFC Section
	natural condition for the general public to observe and study.			8.2-3
Fish and Game Code §1600, Streambed Alteration Agreement	Reviews projects for impacts on waterways, including impacts to vegetation and wildlife from sediment, diversions, and other disturbances.	CDFG 7329 Silverado Trail Napa, CA Sandra Brunson (707) 944-5520	Issues conditions of the Streambed Alteration Agreement that reduces and minimizes effects on vegetation and wildlife.	Work will be done in compliance with approved 1600 agreement. Continued operation of storm water outfall under approved 1600 permit for outfall extension. Sections 8.2.2.1, 8.2.3.1, 8.2.7 (pages 8.2-18, 8.2-21, and 8.2-23)
Native Plant Protection Act of 1977, Fish and Game Code, §1900 et seq.	Designates state rare and endangered plants and provides specific protection measures for identified populations.	CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Reviews mitigation options if there will be significant project effects on threatened or endangered plant species.	No protected populations Sections 8.2.2.1, 8.2.3.1, 8.2.3.2, 8.2.5, (pp. 8.2-16 to 8.2-22)
CDFG Policies and Guidelines, Wetlands Resources Policy.	Provides for the protection, preservation, restoration, enhancement, and expansion of wetland habitats in California, including vernal pools.	CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Reviews 404 permit application and wetland mitigation measures for compliance.	No wetlands on the project site Section 8.2.1.4
Public Resource Code §§25500 & 25527.	Siting of facilities in certain areas of critical concern for biological resources is prohibited, or when no alternative, strict criteria is applied.	USFWS 2800 Cottage Way Sacramento, CA Cecilia Brown (916) 414-6625 CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Issues BO with Conditions after review of BA.	Sections 8.2.1.2, 8.2.1.3, 8.2.1.4, 8.2.2.1, 8.2.3.1-2
Title 20 CCR §§1702 (q) and (v).	Protects “areas of critical concern” and “species of special concern” identified by	USFWS 2800 Cottage Way Sacramento, CA	Issues BO with Conditions after review of BA.	Sections 8.2.1.2, 8.2.1.3, 8.2.1.4, 8.2.2.1, 8.2.3.1-2

Table 8.2-S1. Laws, ordinances, regulations, and standards for biological resources.

LORS	Purpose	Regulating Agency and Contact	Permit or Approval	Project Conformity/AFC Section
	local, state, or federal resource agencies within the project area, including the CNPS.	Cecilia Brown (916) 414-6625 CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500		
Title 14 CCR Section 15000 et seq.	Describes the types and extent of information required to evaluate the effects of a proposed project on biological resources of a project site.	USFWS 2800 Cottage Way Sacramento, CA Cecilia Brown (916) 414-6625 CDFG 7329 Silverado Trail Napa, CA Marcia Grefsrud (707) 944-5500	Issues BO with Conditions after review of BA.	Sections 8.2.2.1, 8.2.3.1, 8.2.5
Local				
The City of San Jose Tree Removal Controls (San Jose City Code, sections 13.31.010 to 13.32.100)	Protects native and non-native trees having a trunk measuring 56 inches or more in circumference (18 inches in diameter), 24 inches above the natural grade of slope.	City of San Jose 801 North First Street San Jose, CA Amy Carter (408) 277-8561	Tree removal permit required to remove significant trees on the LECEF project site.	No City ordinance trees will be affected by continued operation of Phase 1 and no trees will be removed during Phase 2 construction or operation. Section 8.2.1.7 (p. 8.2-14)
Policies set forth in the San Jose General Plan and Riparian Corridor Policies	Encourages preservation of habitats and places planning constraints in sensitive habitat areas.	City of San Jose 801 North First Street San Jose, CA Amy Carter (408) 277-8561	No formal permit or approval	Applicant considered City of San Jose General Plan and Policies, and designed the project to be consistent with them. Section 8.6

8.3 Cultural Resources

1. Ethnology, prehistory, and history of the region (Appendix B[g][2][A]):

A brief summary of the ethnology, prehistory, and history of the region in which the project site and related facilities are located and maps at a scale of 1:24,000, indicating areas of ethnographic occupation. The region may vary depending on the extent of the territory occupied or used by prehistoric cultures indigenous to the area in which the project is located.

Information required to make AFC conform with regulations:

Please add ethnographic territories to Figure 8.3-1.

Response—Figure 8.3-S1 is a revision of Figure 8.3-1 that indicates the ethnographic territories.

2. Literature search (Appendix B[g][2][B]):

A description of all literature searches and field surveys used to provide information about known cultural resources in the project vicinity. If survey records of the area potentially physically affected by the project are not available, and the area has the potential for containing significant cultural resources, the applicant shall submit a new or revised survey for any portion of the area lacking comprehensive survey data. A discussion of the dates of the surveys, methods used in completing the surveys, and the identification and qualification of the individuals conducting the surveys shall be included.

Information required to make AFC conform with regulations:

As agreed, please provide a site map ½ inch = 500 feet, that depicts the Phase 2 construction and laydown areas, in relation to the existing Phase 1 LECEF facility. Include the 13 acre construction laydown area to the south of the existing facility. Please add the location of any previously identified cultural resources. (Submit under confidential cover, if necessary).

Response—Figure 8.3-S2 shows the Phase 2 construction laydown areas in relation to the Phase 1 facility. There are no previously identified cultural resources within 1,000 feet or more of the project site or any of the construction activity areas.

3. Native American contacts (Appendix B[g][2][D]):

A summary of contacts and communications with, and responses from, Native American representatives who may have an interest in heritage lands and/or resources potentially affected by the proposed project.

Information required to make AFC conform with regulations:

Please provide copies of letters sent to and any responses from Native American representatives who may have an interest in heritage lands.

Response—Copies of the letters to Native American representatives are attached. There has been one response to date. Ms. Lanette Jensen contacted Douglas Davy by telephone on February 19, 2004 to indicate interest in the Native American cultural resources of the project area and to offer to assist with cultural resources management activities.

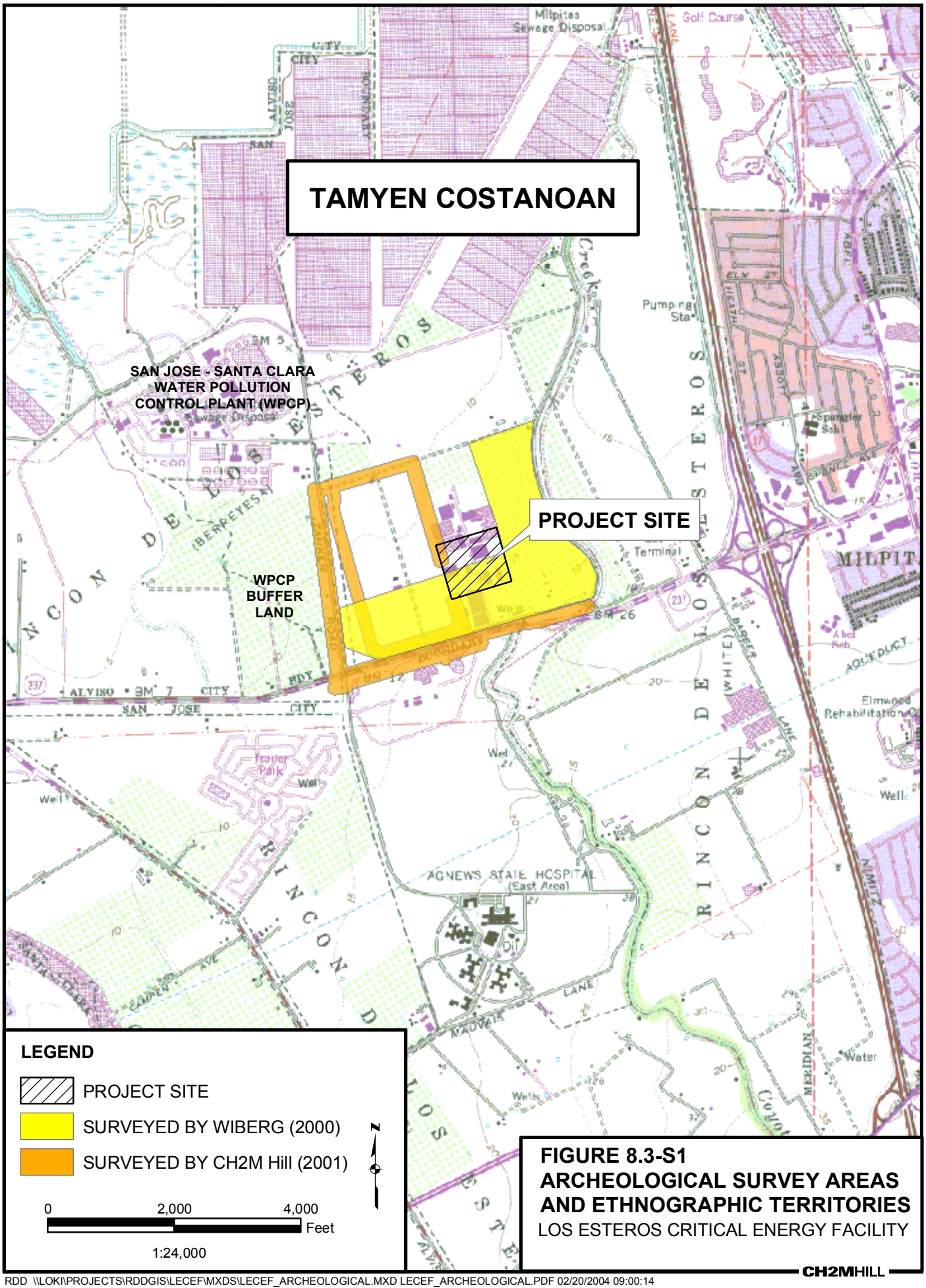

FIGURE 8.3-S1
ARCHEOLOGICAL SURVEY AREAS AND ETHNOGRAPHIC TERRITORIES
LOS ESTEROS CRITICAL ENERGY FACILITY

CH2MHILL

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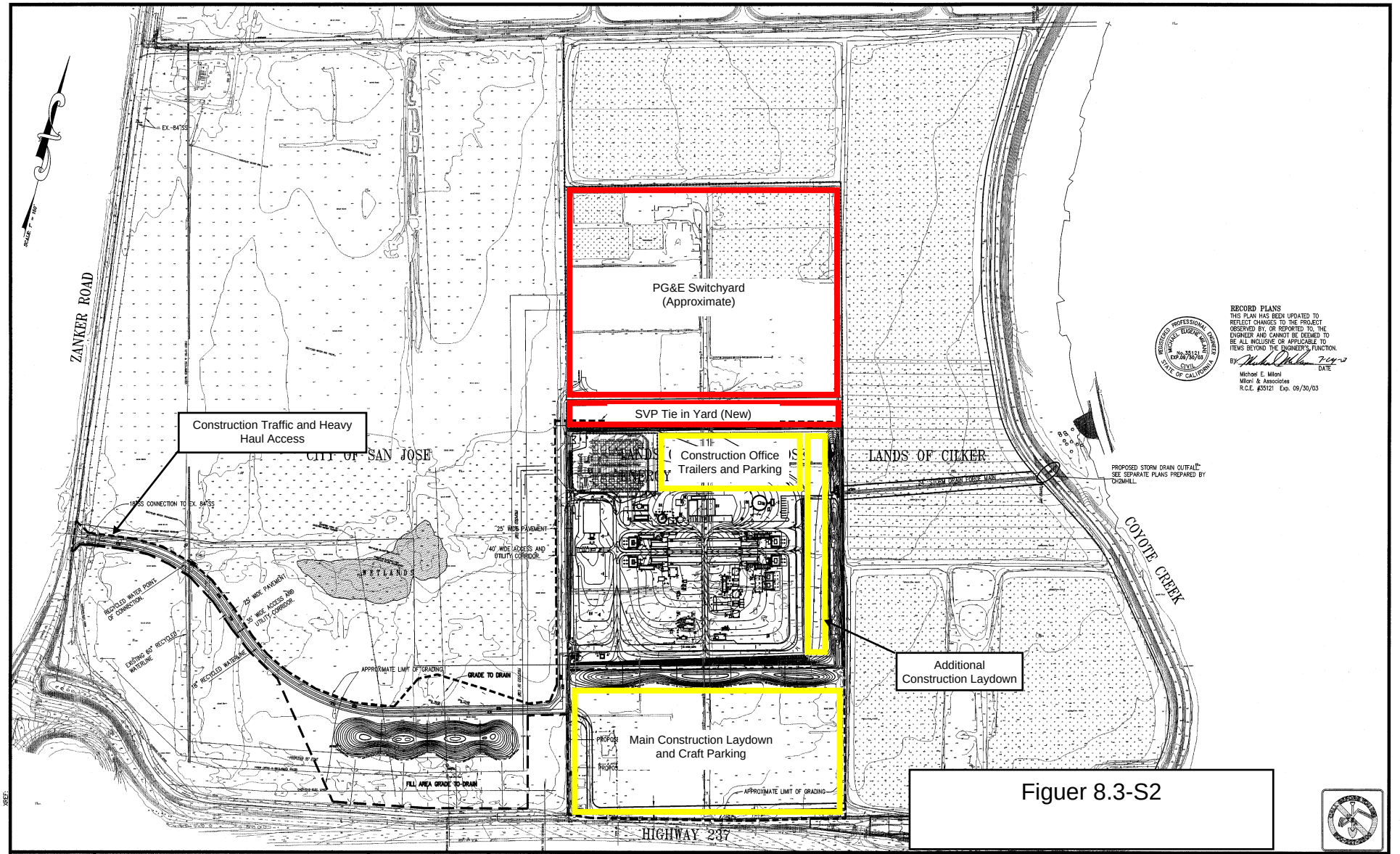


NO.	BY	DATE	REVISIONS	APPROVAL BY	APPROVAL DATE
5	RKH	3.17.03	MOVED BERM / ADDED 55' SV EASEMENT		
4	RKH	2.11.03	REVISED WALL AND EARTH BERM		
3	RKH	2.11.03	REVISED FINISH GRADES		
2	RKH	9.5.02	MOVED N/S DITCH & SD TO THE EAST/ADDED WALL & BERM		
1	RKH	6.27.02	FINAL SUBMITTAL		

1" = 150'

PREPARED BY, OR UNDER THE DIRECTION OF
BY: M.E.M.
R.C.E. No. 35121
DATE:

Planning
Surveying & Mapping
Land Development Engineering
Municipal Engineering
Construction Staking
Construction Management

MILANI & Associates

4071 Port Chicago Highway
Suite 100
Concord, CA 94520
Phone: (925) 674-9082
Fax: (925)674-9279

LOS ESTEROS CRITICAL ENERGY FACILITY-PHASE I CALPINE C* POWER

GRADING PLAN

OVERALL SITE PLAN

CITY OF SAN JOSE SANTA CLARA COUNTY CALIFORNIA

DWG: GRADING/GPS.DWG
SHEET 5 OF 7 SHEETS
JOB NO. 210043-10

XREF:
SNAP SHOT:
PLOT DATE:

ATTACHMENT 8.3-S1

Native American

Consultation Letters

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Ella Rodriguez
P.O. Box 1411
Salinas, CA 93902

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Rodriguez:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

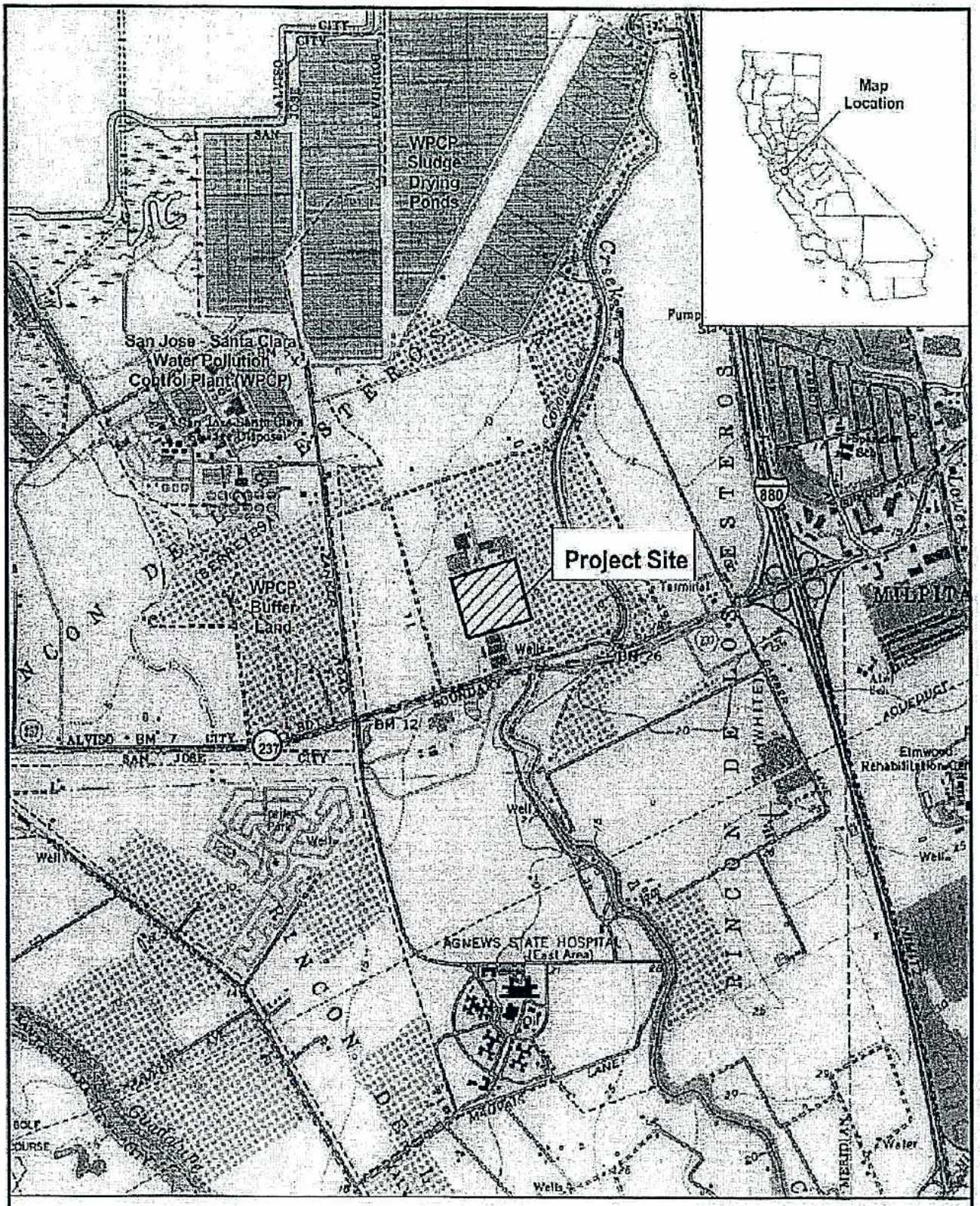
The Native American Heritage Commission provided CH2MHILL, with your name and address as someone who may have knowledge of heritage lands or other resources of interest that the Project would potenitally affect. Please notify us if there are any sites or locations of specific concern wihtin the Project vicinity. Attached is a map showing the location of the LECEF.

Please reference the "Los Esteros Critical Energy Facility" in your correspondence, and send the information to CH2MHILL, 2485 Natomas Dr. #600, Sacramento, CA 95833 or fax it to (916) 614-3435. Please contact me at (916) 296-0278.

Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment



Legend

Project Site

N

1000 0 1000 Feet

1:24000

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Thomas P. Soto
P.O. Box 269
Foresthill, CA 95631

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Mr. Soto:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

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Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

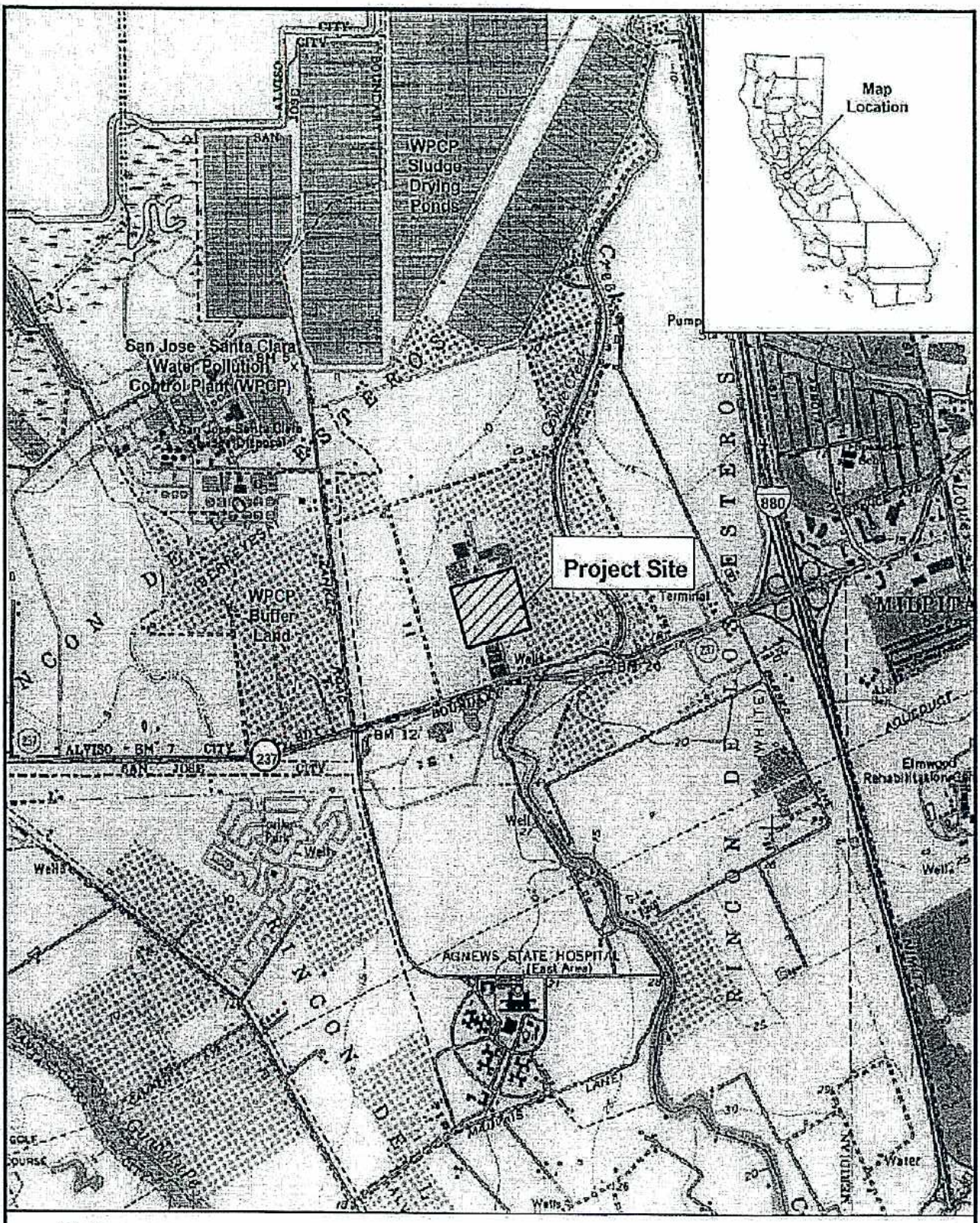

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

q:/projects_2000/sanJose/basemap.apr

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Jakki Kehl
5461 Beaver Lane
Byron, CA 94514

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Kehl:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

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Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

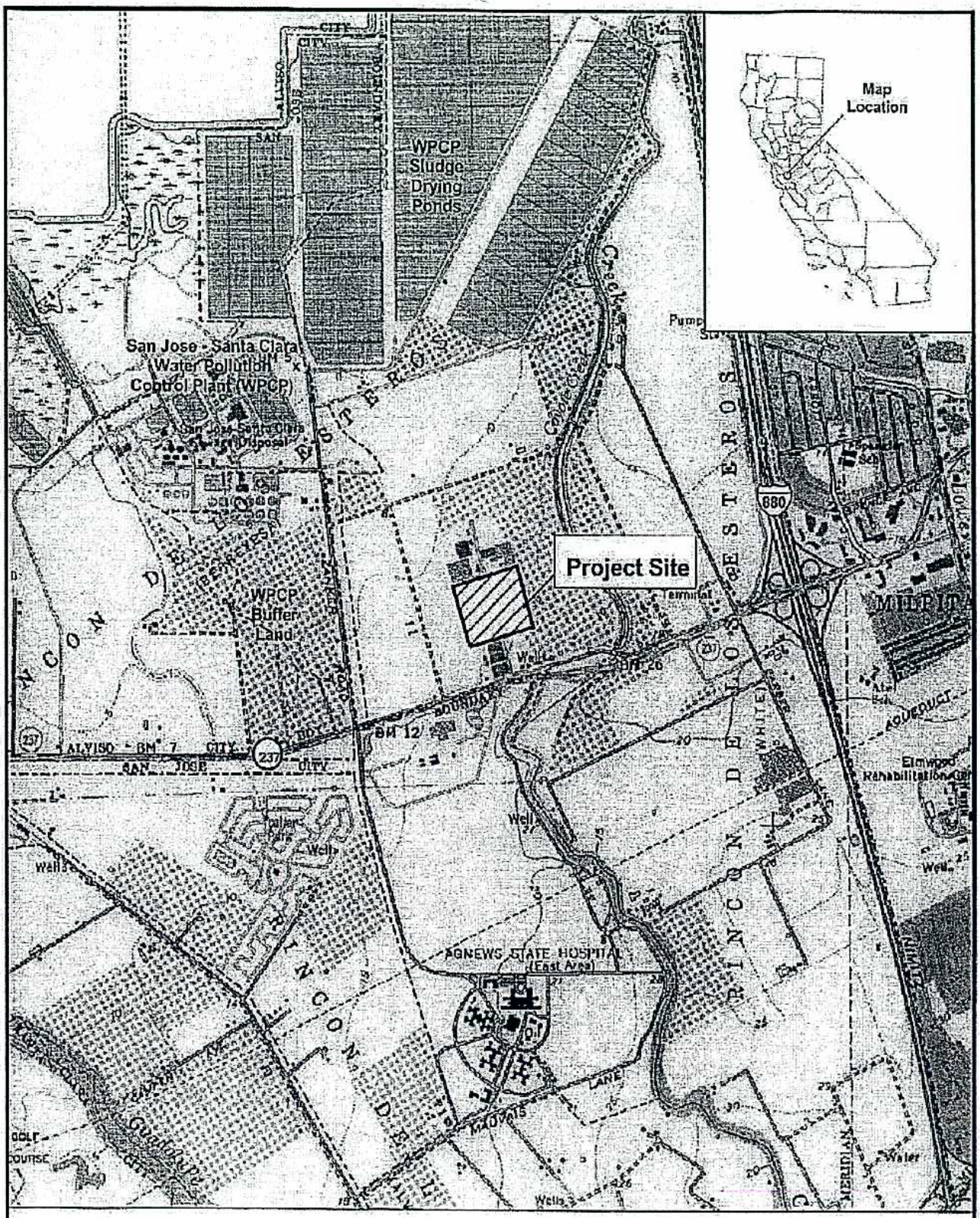

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

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CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Charles Higuera
Amah San Juan Band
1316 Buena Vista Ave
Pacific Grove, CA 93950

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Mr. Higuera:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

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Please reference the "Los Esteros Critical Energy Facility" in your correspondence, and send the information to CH2MHILL, 2485 Natomas Dr. #600, Sacramento, CA 95833 or fax it to (916) 614-3435. Please contact me at (916) 296-0278.

Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

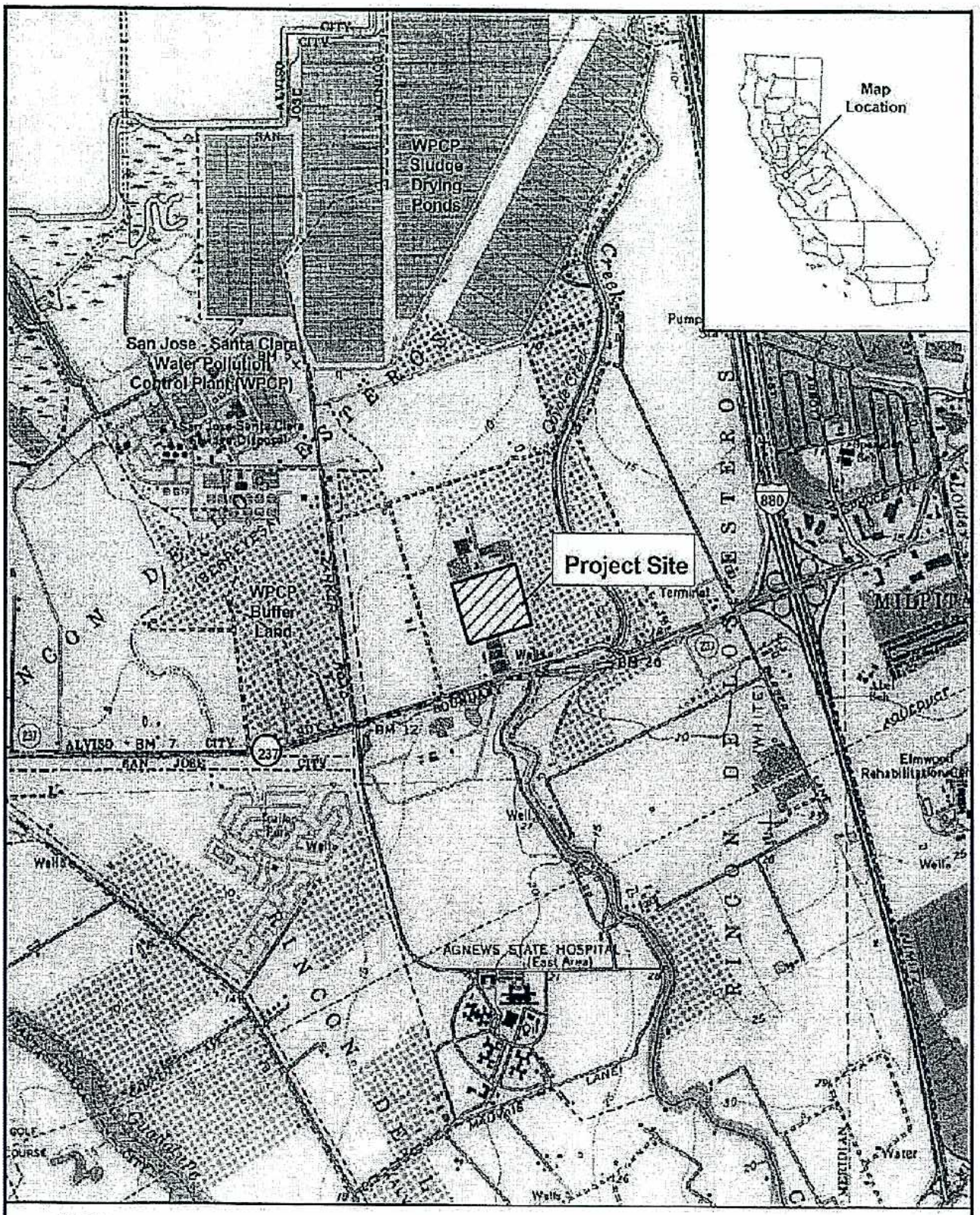

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

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CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Marion Martinez
Amah San Juan Band
26206 Coleman Ave
Hayward, CA 94544

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Martinez:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

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Please reference the "Los Esteros Critical Energy Facility" in your correspondence, and send the information to CH2MHILL, 2485 Natomas Dr. #600, Sacramento, CA 95833 or fax it to (916) 614-3435. Please contact me at (916) 296-0278.

Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

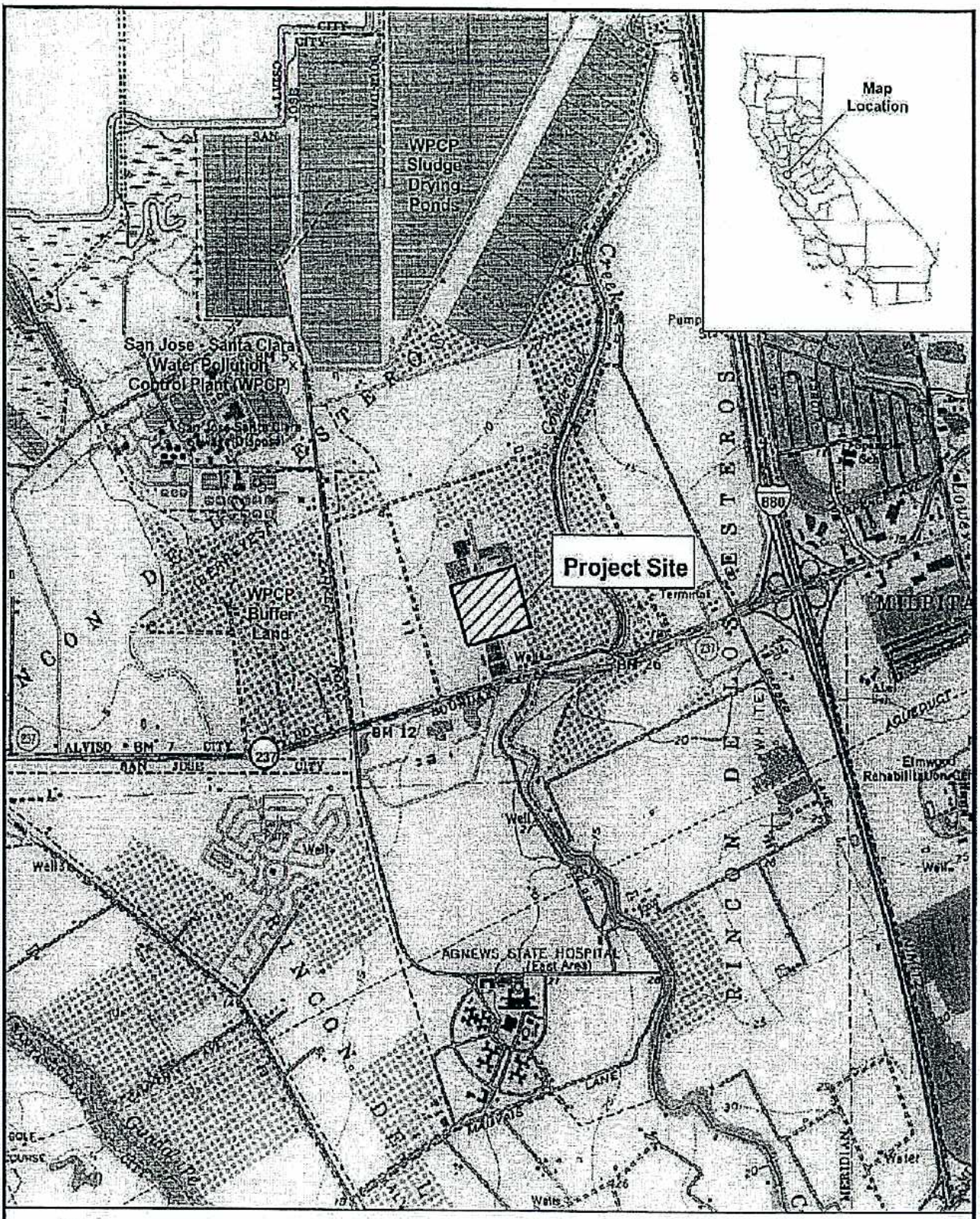

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

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CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Katherine Erolinda Perez
1234 Luna Lane
Stockton, CA 95206

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Perez:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

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Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

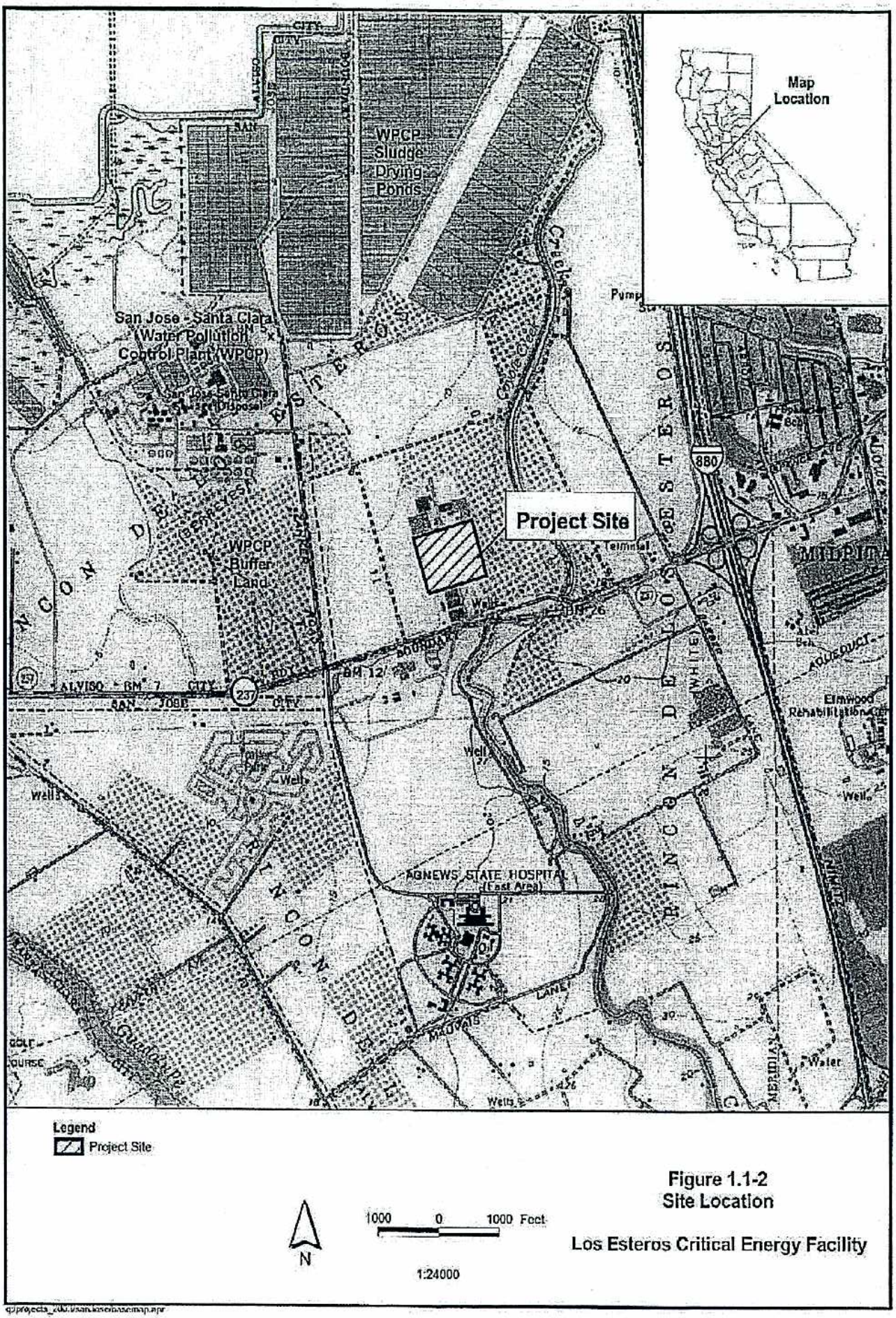

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Marjorie Ann Reid
19279 Lexington Lane
Redding, CA 96003

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Reid:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

The Native American Heritage Commission provided CH2MHILL, with your name and address as someone who may have knowledge of heritage lands or other resources of interest that the Project would potenitally affect. Please notify us if there are any sites or locations of specific concern wihtin the Project vicinity. Attached is a map showing the location of the LECEF.

Please reference the "Los Esteros Critical Energy Facility" in your correspondence, and send the information to CH2MHILL, 2485 Natomas Dr. #600, Sacramento, CA 95833 or fax it to (916) 614-3435. Please contact me at (916) 296-0278.

Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

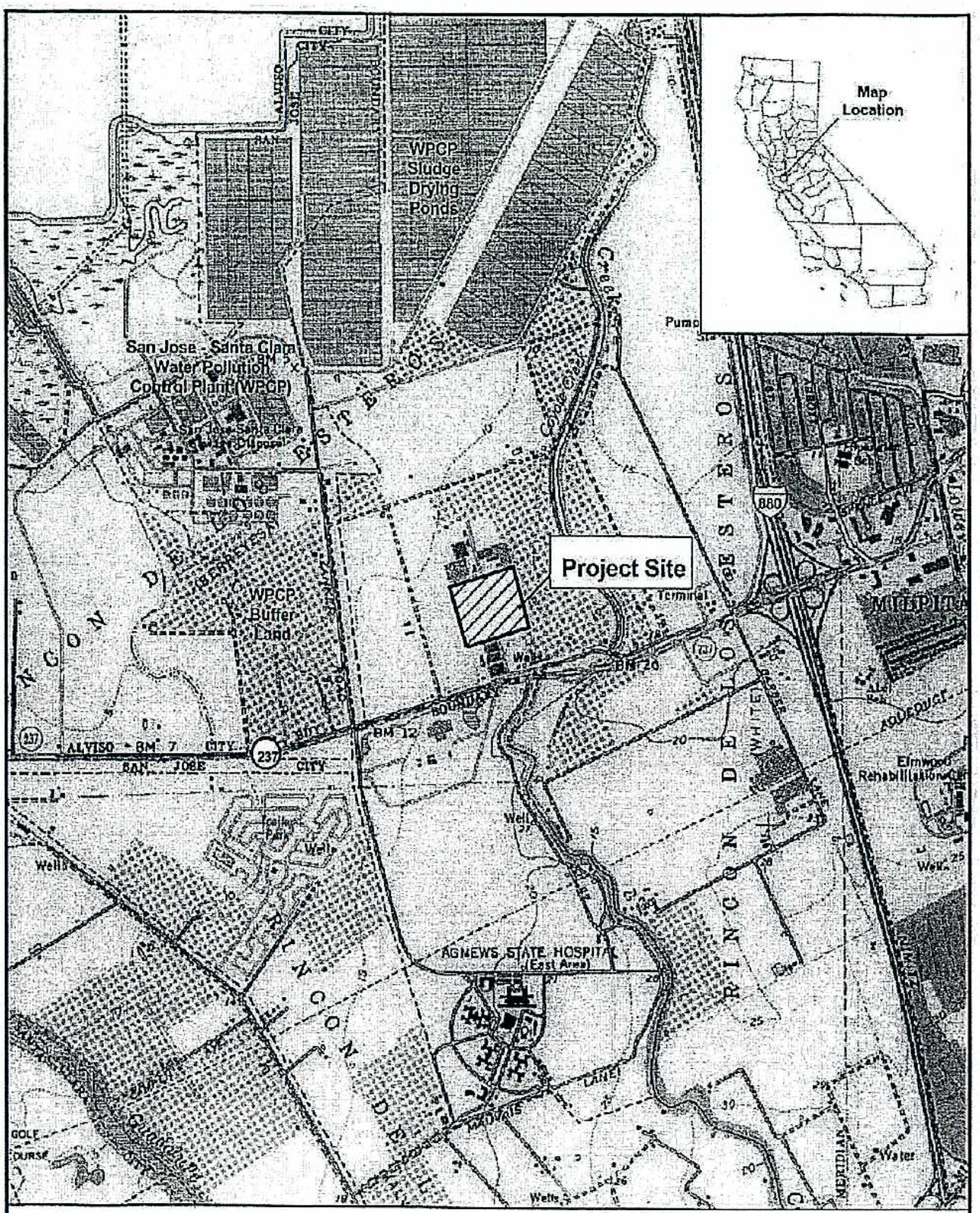

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

q:\projects_2003\sanjose\arbatemap.apr

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Irene Zwierlein
Amah/Mutsun Tribal Band
789 Canada Road
Woodside, CA 94062

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Zwierlein:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

The Native American Heritage Commission provided CH2MHILL, with your name and address as someone who may have knowledge of heritage lands or other resources of interest that the Project would potenitally affect. Please notify us if there are any sites or locations of specific concern wihtin the Project vicinity. Attached is a map showing the location of the LECEF.

Please reference the "Los Esteros Critical Energy Facility" in your correspondence, and send the information to CH2MHILL, 2485 Natomas Dr. #600, Sacramento, CA 95833 or fax it to (916) 614-3435. Please contact me at (916) 296-0278.

Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

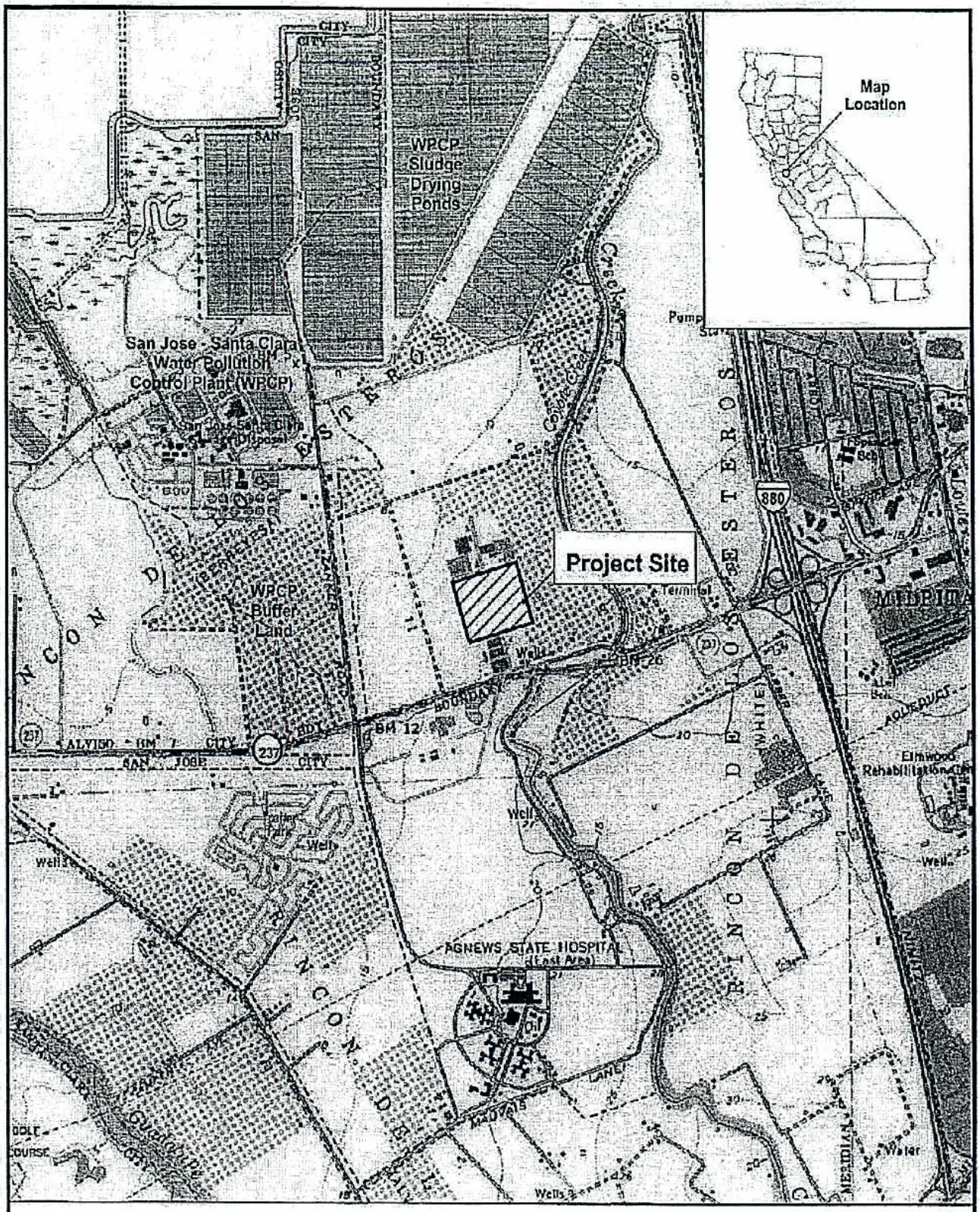

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Michelle Zimmer
4952 McCoy Ave
San Jose, CA 95130

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Zimmer:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

The Native American Heritage Commission provided CH2MHILL, with your name and address as someone who may have knowledge of heritage lands or other resources of interest that the Project would potenitally affect. Please notify us if there are any sites or locations of specific concern wihtin the Project vicinity. Attached is a map showing the location of the LECEF.

Please reference the "Los Esteros Critical Energy Facility" in your correspondence, and send the information to CH2MHILL, 2485 Natomas Dr. #600, Sacramento, CA 95833 or fax it to (916) 614-3435. Please contact me at (916) 296-0278.

Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

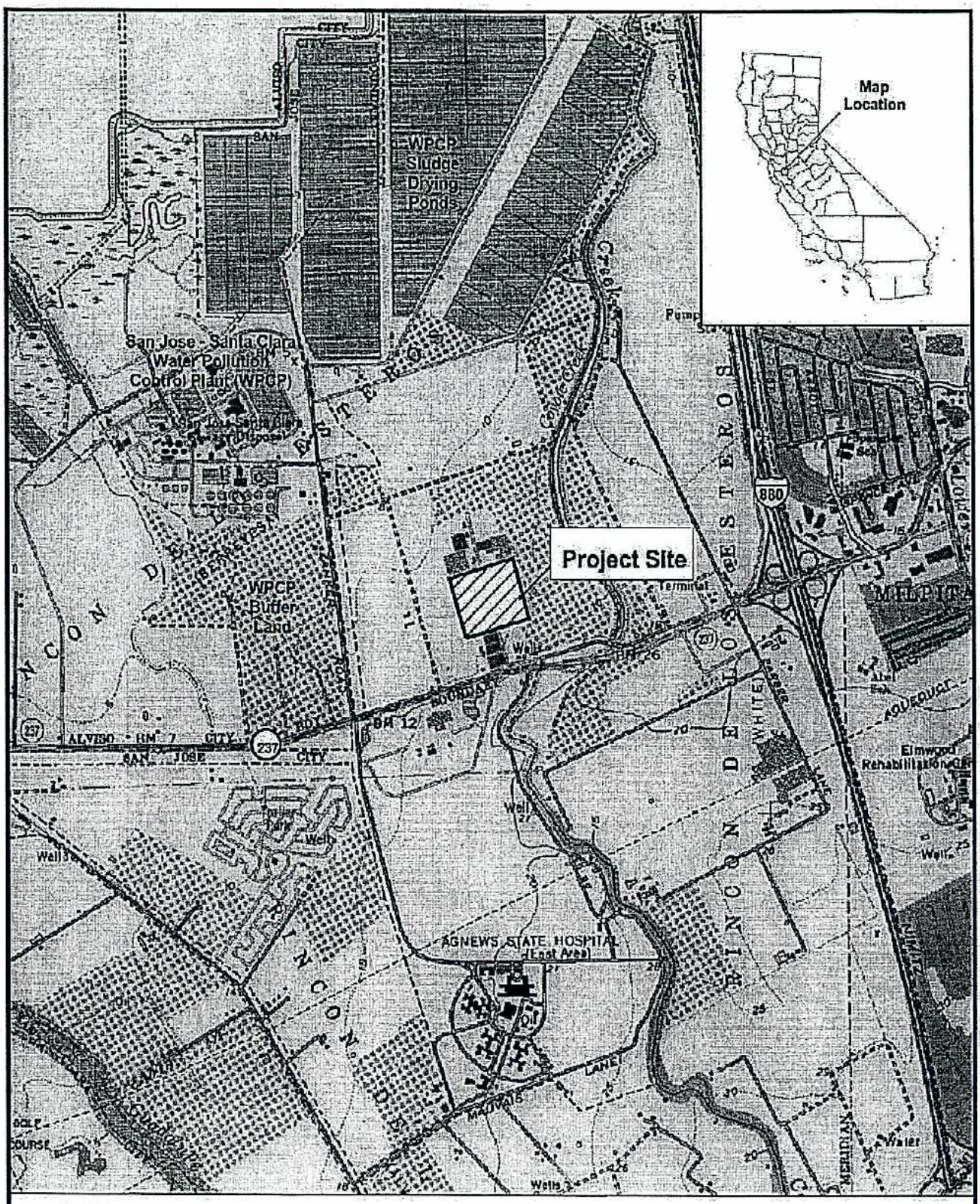

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

q:/projects_2003/sanjose/basemap.apr

CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833

CH2MHILL

February 17, 2004

SAC-314497-021704-DD

Ann Marie Sayer, Chairperson
P.O. Box 28
Hollister, CA 95024

Subject: LOS ESTEROS CRITICAL ENERGY FACILITY PHASE 1 RELICENSE AND PHASE 2 COMBINED-CYCLE CONVERSION

Dear Ms. Sayer:

The Los Esteros Critical Energy Facility (LECEF) is located in north San Jose, Santa Clara County, California. LECEF is owned by the Los Esteros Critical Energy Facility, LLC, a wholly owned subsidiary of Calpine Corporation. Phase 1 of the LECEF is in operation and is a nominal 180 MW natural gas-fired peaking power plant consisting of four simple-cycle combustion turbine generators and associated equipment. The project owner seeks a license before the California Energy Commission (CEC) to continue operating the Phase 1 of the LECF. The project owner also seeks a CEC license for conversion of the LECEF to combined-cycle operation (Phase 2). The combined-cycle conversion would involve the addition of four heat recovery steam generators (HRSGs), one steam-turbine generator (STG), a six-cell, plume-abated cooling tower, and ancillary equipment to the LECEF for a total combined nominal generating capacity of 320 MW. Modifications to the LECEF for the combined-cycle conversion would take place entirely within the fenceline of the existing facility. The project would continue to operate with the existing natural gas pipeline, recycled water pipeline, and storm water outfall pipeline that have been permitted. The electrical transmission connection for the project would be shortened.

The Native American Heritage Commission provided CH2MHILL, with your name and address as someone who may have knowledge of heritage lands or other resources of interest that the Project would potentially affect. Please notify us if there are any sites or locations of specific concern within the Project vicinity. Attached is a map showing the location of the LECEF.

Please reference the "Los Esteros Critical Energy Facility" in your correspondence, and send the information to CH2MHILL, 2485 Natomas Dr. #600, Sacramento, CA 95833 or fax it to (916) 614-3435. Please contact me at (916) 296-0278.

Sincerely,

Douglas M. Davy, Ph.D.
Project Manager

Attachment

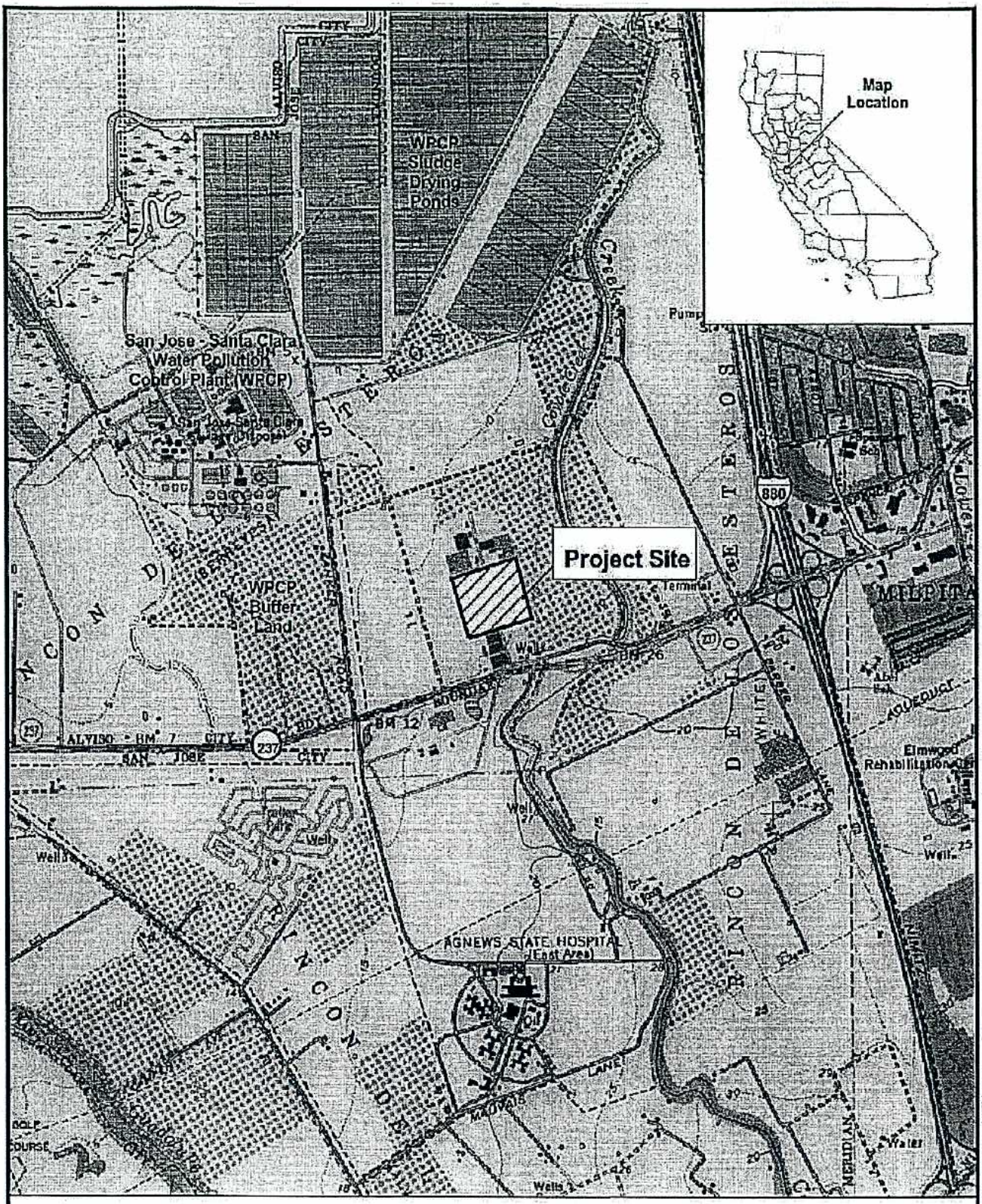

Figure 1.1-2
Site Location

Los Esteros Critical Energy Facility

g:\projects_2001\losesteros\basemap.apr

8.4 Geological Hazards and Resources

1. Map, description and analysis (Appendix B[g][17][B]):

A map at a scale of 1:24,000 and description of all recognized stratigraphic units, geologic structures, and geomorphic features within 2 miles of the project site. Include an analysis of the likelihood of ground rupture, seismic shaking, mass wasting and slope stability, liquefaction, subsidence, and expansion or collapse of soil structures.

Information required to make AFC conform with regulations:

Phase 2: Geologic map should be drafted and presented in a scale of 1:24,000 and with a radius of at least 2 miles from the project site.

Response—Figure 8.4-S1 is a geologic map at a scale of 1:24,000 showing a radius of 2 miles from the project site.

2. Geologic resources (Appendix B[g][17][C]):

A map and description of geologic resources of recreational, commercial, or scientific value which may be affected by the project. Include a discussion of the techniques used to identify and evaluate these resources.

Information required to make AFC conform with regulations:

Phase 2: Provide a discussion of the techniques used to identify and evaluate potential geologic resources.

Response—The techniques included review of the geological literature, field guides to recreational geology, California Geological Survey inventories and maps, and the topographic maps.

3. LORS table (Appendix B[h][1][A]):

Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;

Information required to make AFC conform with regulations:

Phase 2: Provide a table identifying applicable project-related LORS and referencing specific AFC pages.

Response—Table 8.4-S1 lists the applicable LORS, with AFC page number reference.

Table 8.4-S1. LORS Applicable to geologic resources and hazards.

LORS	Applicability	Mitigation Effective?	AFC Reference
CBC (California Building Code), Chapters 16, 18, 33	Design and construction of manmade structures with respect to seismic safety features; design and construction of open excavations. Requires a site-specific geotechnical study.	Yes	Section 8.4.2.1 (p. 8.4-5) and 8.4.5.2 (p. 8.4-6)

4. Agency contact (Appendix B[h][1][B]):

Tables which identify each agency with jurisdiction to issue applicable permits and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.

Information required to make AFC conform with regulations:

Phase 2: Please provide specific jurisdiction, and/or any required permitting information for each contact. All agencies mentioned in the text are not included in the table.

Response—Table 8.4-2 in the AFC contained a list of agencies and contacts for agencies that have to do with geological hazards and resources. None of these agencies, however, except for the City of San Jose have actual jurisdiction or permitting authority over the LECEF Project. Table 8.4-S2 provides contact information for the City of San Jose grading permit.

Table 8.4-S2. Involved agencies and agency contacts.

Issue	Contact/Agency	Name and Title	Telephone
Grading Permit	City of San Jose Department of Public Works 801 N. First St, Room 340 San Jose, CA, 95110	Tim Borden Senior Engineer	(408) 277-5161

5. Conformity of project with requirements in subsection (Appendix B[h][2]):

A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).

Information required to make AFC conform with regulations:

Phase 2: Describe how the proposed project will confirm with applicable LORS.

Response—The project will conform with applicable LORS by meeting design standards of the California Building Code and obtaining the grading permit as indicated in Tables 8.4-S2 (above) and 8.4-S3 (see below).

Table 8.4-S3. Permits required and permit schedule.

Permit/Required Information	Schedule
Building Permit including Seismic Design Criteria: • 30 day review and approval process • Requires structural, civil, electrical and mechanical plans • Geotechnical/Geologic report • Identify geologic hazards and potentially conduct a seismic risk analysis • Architectural plans	Submit application 30 days prior to start of construction.
Grading/Drainage/Erosion Control Permit: • Engineered Grading Plan • Topographic Plan • Drainage controls • Surface Hydrology Report • Geotechnical/Geological Hazard Evaluation • Identify material source or disposal location and haul route • Erosion and Dust Control Plan • Traffic Control Plan	Submit application 30 days prior to start of construction activities.

Qi

Qo

Q

PROJECT SITE

Q

Q

Qo

Q

LEGEND

Q	ALLUVIUM
Qi	INTERTIDAL DEPOSITS
Qo	OLDER ALLUVIM
	PROJECT SITE

0 2,000 4,000 Feet

1:24,000

FIGURE 8.4-S1
GEOLOGICAL UNITS
LOS ESTEROS CRITICAL ENERGY FACILITY

CH2MHILL

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8.7 Noise

1. Steam blow (Appendix B[g][1]):

...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.

Information required to make AFC conform with regulations:

Under the topic of projected construction noise impacts, please estimate and evaluate the magnitude and impact of steam blow noise on sensitive receptors.

Response—Table 8.7-S1 below shows that unsilenced steam blows would exceed any reasonable impact criteria; consequently, a temporary blowout silencer, such as a Fluid Kinetics Model TBS 16-AC, or similar, will be used. Such a silencer has an overall noise reduction of 40 to 45 dBA and would reduce the estimated unsilenced level to 89 dBA (at 50 feet) putting it in the same category as heavy construction equipment. Since it is common practice to only carry out these blows during the day, silenced blows should produce no significant disturbance at the Cilker residence.

Table 8.7-S1. Maximum noise levels from unsilenced and silenced steam blow.

Construction Equipment	Typical Sound Pressure Level at 50 feet (dBA)	Typical Sound Pressure Level at 1,500 feet (dBA)
Unsilenced Steam Blow (4- to 8-inch Line)	129	99
Silenced Steam Blow (4- to 8-inch Line)	89	59

Noise generated during the testing and commissioning phase of the project is not expected to be substantially different from that produced during normal full-load operation. Starts and abrupt stops are more frequent during this period, but on the whole they are usually short-lived. The steam releases associated with these starts and stops should not be problematic since they will be vented through permanent vent silencers.

2. Steam blow (Appendix B[g][4][D]):

An estimate of the project noise levels, during both construction and operation, at residences, hospitals, libraries, schools, places of worship or other facilities where quiet is an important attribute of the environment, within the area impacted by the proposed project.

Information required to make AFC conform with regulations:

Under the topic of projected construction noise impacts, please estimate and evaluate the magnitude and impact of noise from steam blows on sensitive receptors.

Response—See previous response.

8.8 Paleontological Resources

1. Paleontological resource map (Appendix B[g][16][D]):

Information on the specific location of known paleontologic resources, survey reports, locality records, and maps at a scale of 1:24,000, shall be included in a separate appendix to the Application and submitted to the Commission under a request for confidentiality, pursuant to Title 20, California Code of Regulations, § 2501 et seq.

Information required to make AFC conform with regulations:

Phase 2: Please provide a paleontological resources (confidential) map at a scale of 1:24,000, showing all known nearby paleontological resource sites. If the map submitted for the earlier LECEF project is accurate, to scale, and contains the relevant information, please provide an appropriate reference.

Response*:* As stated in the AFC, there are no recorded paleontological resources within one mile of the project site. In the previous 2001 AFC for LECEF, the Applicant submitted a map at a scale of 1:24:000 showing the area surrounding the project site for two miles and documenting the lack of recorded paleontological resources finds within this area. A similar is attached to the Geological Resources section (above) as Figure 8.4-S1. Further conversations with the University of California at Berkeley Museum of Paleontology have indicated that there have been no paleontological resources finds reported to the Museum within the past 3 years within 2 miles of the project site (Pat Holroyd, University of California at Berkeley, Museum of Paleontology, personal communication, 2004).

8.10 Socioeconomics

1. Economic model (Appendix B[g][1]):

...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.

Information required to make AFC conform with regulations:

1. *Please indicate what year the economic estimates are for.*
2 a. *Please estimate secondary impacts (indirect and induced) for construction and operation phases using a type II or type III multiplier*
2 b. *identify the economic model used (IMPLAN, REMI etc.).*

Response—Economic estimates for Phase 1 relicensing are for the period of the new license, starting in early 2005. For Phase 2, the project schedule calls for construction to begin in September 2006, with initial startup in January 2008 and commercial operation in April 2008. Economic estimates related to construction therefore apply to the period between September 2006 and April 2008.

Indirect and Induced Economic Impacts From Construction

Construction activity would result in secondary economic impacts (indirect and induced impacts) within Santa Clara County. Secondary employment effects would include indirect and induced employment due to the purchase of goods and services by firms involved with construction, and induced employment due to construction workers spending their income within the county. In addition to these secondary employment impacts, there are indirect and induced income effects arising from construction.

Indirect and induced impacts were estimated using an IMPLAN Input-Output model of Santa Clara County. IMPLAN is an economic software modeling software program. Estimated indirect and induced employment within Santa Clara County would be 16 and 29 jobs, respectively. These additional jobs result from the annual local construction expenditure of $3.67 million (assumed to be the annual portion of the $5.8 million in total local construction expenditures over the 19 month construction period) as well as the $4.0 million in annual spending by local construction workers. The $4.0 million represents the disposable portion of the annual construction payroll (here assumed to be 70% of $5.72[1] million in annual local construction payroll). Assuming an average direct construction employment of 82, the employment multiplier associated with the construction phase of the project is derived using the following formula:

(Direct employment + Indirect employment + Induced Employment)/Direct Employment.

[1] Annual portion of construction payroll derived by dividing the $9.06 million in total local construction payroll by 1.58 (19 months divided by 12 months).

Thus, the employment multiplier for the construction phase of the project is 1.6 (i.e., (82 + 16 + 29)/82). This is a Type SAM multiplier. Type SAM multipliers are the direct, indirect, and induced effects where the induced effect is based on information in the social accounting matrix (SAM). Type SAM multipliers capture the inter-institutional transfers. Type SAM multipliers also account for social security and income tax leakages, institution savings, and commuting.

Indirect and induced income impacts were estimated at $579,416 and $1,216,472, respectively, in 2008 dollars. Assuming a total annual local construction expenditure (payroll, materials and supplies) of $7.67 million ($4.0 million in payroll + $3.67 million in materials and supplies), the Type SAM income multiplier associated with the construction phase of the project is 1.2 (i.e., ($7,668,632 + $579,416 + $1,216,472)/$7,668,632).

Indirect and Induced Economic Impacts from Operation

The operation of the proposed project would result in indirect and induced economic impacts that would occur within Santa Clara County. These indirect and induced impacts represent permanent increases in the county's economic variables. The indirect and induced impacts would result from annual expenditures on payroll as well as those on operations and maintenance (O&M).

Estimated indirect and induced employment within Santa Clara County would be 11 and 5 permanent jobs, respectively. These additional 16 jobs result from the $3.507 million ($957,000 in payroll, $750,000 in maintenance and $1,800,000 in materials) in annual operational budget. The Type SAM employment multiplier associated with the operational phase of the project is calculated in the following manner:

(Direct employment + Indirect employment + Induced Employment)/Direct Employment.

In above case, the Type SAM employment multiplier is derived as (17 + 11 +5)/17 and is thus equal to 1.9.

Indirect and induced income impacts are estimated at $796,578 and $241,269, respectively, in 2008 dollars. The income multiplier associated with this phase of the project is calculated in the following manner:

(Direct Income + Indirect Income + Induced Income)/Direct Income.

Thus, the Type SAM income multiplier is derived as ($3,507,000 + $796,578 + $241,269)/$3,507,000 and is equal to 1.3.

2. Workforce relocation (Appendix B[g][7][B][ii]):

An estimate of the number and percentage of workers who will commute daily, commute weekly, or relocate in order to work on the project;

Information required to make AFC conform with regulations:

Phase 2: Please provide an estimate of the non-local construction workforce that will relocate in order to work on the project.

Response—As stated in the AFC, there is sufficient available construction workforce within 30 miles of the project that the project will not need to draw on other areas for a construction workforce. Though it is possible that some workers will choose to relocate to the project area (less than 5 percent), shortage of workforce in the project vicinity would not be the cause of this.

3. Locally purchased materials (Appendix B[g][7][B][viii]):

An estimate of the expenditures for locally purchased materials for the construction and operation phases of the project; and

Information required to make AFC conform with regulations:

Phase 1: Please provide an estimate for the operation phase of the project for locally purchased materials.

Response—Phase 1 operational expenditures are approximately $90,000 per month, or $1,080,000 per year. For Phase 2, total expenditures will increase to $150,000 per month, or $1,800,000 annually. These expenditures include both goods and services (or combination goods-services, such as potable water service). Nearly all of this operational budget is spent locally. When replacement parts are needed for power equipment, on the other hand, they are ordered from suppliers who are located outside of the local area. Since the demand for replacement parts and the cost of replacement parts varies widely from month to month, however, it is not possible to provide an exact estimate of local purchases for materials.

8.11 Soils and Agriculture

1. Phase 2 grading and trenching (Appendix B[g][1]):

...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.

Information required to make AFC conform with regulations:

Please provide a discussion of the extent of the grading and or excavation/trenching at the site required for development of Phase 2. A topographic map that defines the final grade for Phase 1, delineates the areas to be disturbed for Phase 2, and shows any changes in grade expected for Phase 2 would be preferred. The discussion and map should include adequate offsite features and topography to understand grade and drainage of adjacent lands.

Please provide information and details that show erosion and sediment control measures and their location installed for Phase 1 and any changes to these measures for Phase 2. This information should also include any features installed for linear and ancillary facilities. "As-built" diagrams for Phase 1 that show Phase 2 details would be preferred.

Response—Figure 8.11-S1 shows the areas planned for grading and trenching as part of Phase 2 construction. Figure 8.15-S1 shows the existing Phase 1 drainage patterns surrounding the project site, including the proposed location for the Phase 2 laydown area. Mitigation measures implemented during Phase 1 construction of the LECEF project were addressed in the Storm Water Pollution Prevention Plan (SWPPP) for Construction Operations dated June 2002 and submitted to the CEC Compliance Project Manager on June 22, 2002 in compliance with Conditions of Certification SOIL&WATER-1, -2, and -3. Mitigation measures implemented during Phase 1 operation of the LECEF project were addressed in the SWPPP for Industrial Operations, Rev. 1, dated September 2002 and submitted to the CEC Compliance Project Manager on February 21, 2003 in compliance with Condition of Certification SOIL&WATER-3.

2. Contaminated soils (Appendix B[g][15][A][ii]):

An identification of other physical and chemical characteristics of the soil necessary to allow an evaluation of soil erodibility, permeability, re-vegetation potential, and cycling of pollutants in the soil-vegetation system.

Information required to make AFC conform with regulations:

Please provide all relevant information on contaminated soils encountered during construction of Phase 1 that may be affected by construction work for Phase 2. Please include in this information proposed remediation measures that may need to be taken for Phase 2.

Response: A discussion of the Phase I and II Environmental Site Assessment (ESA) can be found in Section 8.14 of the LECEF AFC. In addition, copies of the Phase 1 and II ESA are

contained in AFC Appendices 8.14-A, 8.14-B, and 8.14-C. The following is a summary discussion of the Phase I and II ESA.

The LECEF site was previously developed as an orchard with at least one residence. The orchard was removed by 1980, after which additional residential structures and several plant nursery complexes were constructed. These were later abandoned and had become dilapidated prior to LECEF construction. Structures within the plant nursery complexes that were located on the LECEF property included greenhouses, a vegetable cooler, agricultural chemical and other storage sheds, and boilers used to provide steam heat for greenhouses. Fuel (one gasoline and two diesel underground storage tanks), and water storage tanks were also present within this area. The underground storage tanks that were located on the LECEF property were removed from the site in accordance with state and local regulations prior to LECEF Phase 1 construction.

As many as five water supply wells were also reported to have been on the LECEF property. These wells were closed in accordance with state and local regulations prior to and during the LECEF Phase 1 construction.

A limited Phase II ESA was completed for the 55-acre LECEF property to determine whether native soil had been contaminated with residual pesticides and associated metals (arsenic, lead, and mercury). The main pesticide detected was DDT and the related compounds DDD and DDE, collectively referred to as Total DDT.

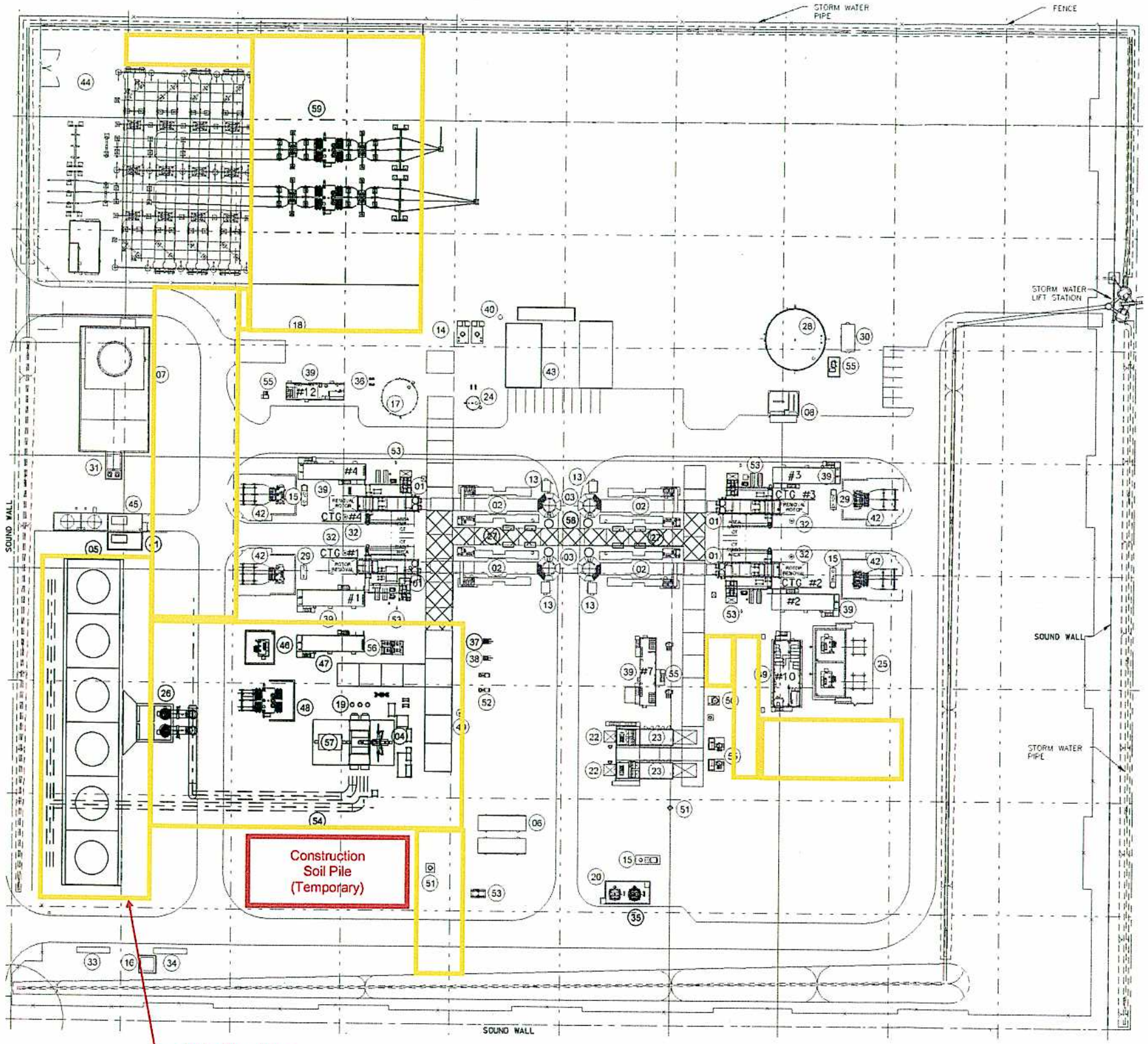
Pesticides, including total DDT, were found at levels up to 11,030 micrograms per kilogram (µg/kg). This concentration is greater than the 1,000 µg/kg level above which the soil would be considered hazardous waste by the State of California, if removed from the site. However, levels of total DDT were below the U.S. Environmental Protections Agency's (USEPA) preliminary remediation goal (PRG) of 12,000 µg/kg for industrial uses. Lead was found at concentrations of up to 310 milligrams per kilogram (mg/kg) and arsenic concentrations ranged from 11 mg/kg to 67 mg/kg. The lead and arsenic concentrations were higher than typical background levels; however, they were well below State of California Total Threshold Limit Concentration (TTLC), the level above which the soil would be considered hazardous waste under Title 22 of the California Code of Regulations.[2]

Petroleum hydrocarbons were not detected in the soil or in ground water samples collected near existing underground fuel storage tanks.

Since the detected soil contamination levels did not exceed PRG values for industrial use, the detected concentrations did not pose a significant threat to human health in a commercial or industrial setting. That said, there is a concern that workers could come in contact with pesticide contaminated soil during Phase 2 construction. To address this concern, Applicant will prepare a Soil Management Plan (SMP) and Construction Worker Health and Safety Plans (HSP) prior to the start of Phase 2 construction activities. The SMP will address how DDT

[2]The TTLC for lead is 1,000 mg/kg and for arsenic is 500 mg/kg.

contaminated soil will be handled during excavation for foundations and utilities. The SMP will also detail how excavated soil that may need offsite disposal will be stockpiled and tested for disposal and soil handling activities during on-going site development.



LEGEND

1. COMBUSTION TURBINE (CT)
2. HRSG CASING WITH SCR/CO SYSTEMS
3. HRSG STACK
4. STEAM TURBINE
5. COOLING TOWER (6 CELL) (NEW)
6. FUEL GAS COMPRESSORS
7. COOLING TOWER (1 CELL)
8.
9. AUXILIARY SKIDS
10. SPRINT SKIDS
11. GENERATOR CIRCUIT BREAKER
12. WATER INJECTION SKIDS
13. CEMS ENCLOSURES
14. AIR COMPRESSOR/AIR DRYER SKIDS/AIR RECEIVER
15. OIL WATER SEPARATORS
16. PROCESS SUMP & PUMPS
17. DEMINERALIZED WATER STORAGE TANK
18. WATER TREATMENT AREA
19. CONDENSER
20. AQUEOUS AMMONIA STORAGE TANK & PUMPS
21. AMMONIA FEED SKIDS
22. CTG INLET AIR CHILLER SYSTEM
23. CTG CHILLED WATER PUMPS
24. POTABLE WATER TANK AND PUMPS
25. PRIMARY AUXILIARY TRANSFORMERS
26. CIRCULATING WATER PUMPS (NEW)
27. BOILER FEED WATER PUMPS (NEW)
28. RAW WATER STORAGE TANK
29. WATER WASH DRAIN TANKS
30. FIREWATER PUMPS
31. AUXILIARY COOLING WATER PUMPS
32. COIL CONDENSATE SUMP W/PUMP
33. PLANT WATER METER
34. PG&E FUEL GAS METER
35. AQUEOUS AMMONIA STORAGE TANK (NEW)
36. DEMINERALIZED WATER TRANSFER PUMPS
37. EQUIPMENT COOLING WATE HEAT EXCHANGER (NEW)
38. EQUIPMENT COOLING WATER HEAT EXCHANGER
39. POWER DISTRIBUTION CENTERS (PDC)
40. SANITARY WASTE LIFT STATION
41. CIRCULATING WATER CHEMICAL FEED SYSTEM (NEW)
42. GENERATOR STEP-UP TRANSFORMER
43. CONTROL, OFFICE AND SERVICE AREA
44. 115 kV SWITCHYARD
45. CIRCULATING WATER CHEMICAL FEED SYSTEM
46. STG UNIT AUXILIARY TRANSFORMER (NEW)
47. STG POWER DISTRIBUTION CENTER (NEW)
48. STG GENERATOR STEP-UP TRANSFORMER (NEW)
49. EQUIP COOLING WATER EXPANS. TK & AIR SEPAR
50. CHILLED WATER EXPANSION TK & AIR SEPARATOR
51. INSTRUMENT AIR RECEIVER
52. EQUIPMENT COOLING PUMPS
53. FUEL GAS FILTER/SEPARATORS
54. U/G CIRCULATING WATER PIPING (NEW)
55. SECONDARY AUXILIARY TRANSFORMERS
56. CHILLER CIRCULATING WATER STRAINER
57. ST GENERATOR (NEW)
58. BLOWDOWN TANK (TYP. 4) (NEW)
59. 115-230 KV SVP SWITCHYARD

BOLD ITEMS INDICATE NEW SCOPE

ADD NEW LEVEL OF PIPE RACK TO EXISTING PIPE RACK

Mark ups by GR Baxter
2/11/04

For AFC data adequacy request.

80 0 80 160 240

SCALE IN FEET

REV	DATE	DESCRIPTION	DRAWN	CHECKED	ENGINEER	PROJ. ENGR MANAGER	PROJECT MANAGER
-	- -						
-	- -						
-	- -						
-	- -						
B	12-11-03	ADD SVP SWITCHYARD/BBS TANKS					
A	10-31-03	ISSUED FOR PERMITTING					

		DATE
DRAWN BY	K BLAIR	10-31-03
CHECKED BY	G BAXTER	10-31-03
ENGINEER	G BAXTER	10-31-03
PROJECT ENGINEERING MANAGER	- -	- -
PROJECT MANAGER	- -	- -

Figure 8.11.S1

CALPINE

PROJECT NO.

LOS ESTEROS CRITICAL ENERGY FACILITY
GENERAL ARRANGEMENT
COMBINED CYCLE CONVERSION (PHASE 2)

SCALE 1" = 50'-0"

DWG. NO. LECEF2-G-1001

REVISION B

23-DEC-2003

8.15 Water Resources

1. Monitoring plans (Appendix B[g][1]):

...provide a discussion of the existing site conditions, the expected direct, indirect and cumulative impacts due to the construction, operation and maintenance of the project, the measures proposed to mitigate adverse environmental impacts of the project, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.

Information required to make AFC conform with regulations:

Please provide "as-built" information on all mitigation measures implemented for Phase 1 that ensure compliance with all discharge water quality requirements, groundwater protection and ensure no on- or offsite flooding.

Please provide all actual monitoring reports for Phase 1.

Please provide specific information on all proposed monitoring plans (waste discharge, storm water, etc…) for Phase 2.

Response—Mitigation measures implemented during Phase 1 of the LECEF project were addressed in the Storm Water Pollution Prevention Plan (SWPPP) for Construction Operations dated June 2002. This plan addressed best management practices (BMPs) used for erosion and sedimentation control and also addressed site inspections, monitoring, and reporting. The Construction SWPPP was submitted to the CEC Compliance Project Manager on June 22, 2002 in accordance with the requirements of Conditions of Certification SOIL&WATER1-, 2- and-3. The Plan will be updated as necessary to address Phase 2 construction.

As noted in Response No. 7, a copy of the September 2003 Self Monitoring Report for the LECEF discharge is attached. This report was submitted to the San Jose/Santa Clara Water Pollution Control Plant (WPCP). A point of contact at the WPCP for the LECEF project is Mr. Tellis Hynes who can be reached at (408) 945-5466.

2. Water discharge requirements (Appendix B[g][14][A][i]):

All information required by the Regional Water Quality Control Board in the region where the project will be located to apply for: Waste Discharge Requirements;

Information required to make AFC conform with regulations:

Please provide copies of all approved permits or agreements for industrial waste water discharges for Phase 1. Please also provide specific information regarding changes to these permits or approvals necessary to support Phase 2. This information should include all supporting data, analysis, calculations and assumptions.

Response—Attached is a copy of the LECEF Amended Industrial Wastewater Discharge Permit No. SJ-488A. This permit covers LECEF's wastewater discharge to the San Jose/Santa Clara Water Pollution Control Plant (WPCP). Based on discussions between the Applicant and the

WPCP staff, a new permit application will be required prior to discharge of the wastewater generated by the Phase 2 facility. WPCP staff have indicated that such permitting should be fairly straightforward since it is anticipated that only the quantity (not quality) of discharge will change as a result of Phase 2 operations.

3. Storm water permits (Appendix B[g][14][A][ii]):

a National Pollutant Discharge Elimination System Permit.

Information required to make AFC conform with regulations:

Please provide copies of all approved permits related to storm water discharges to Coyote Creek. This information should include diagrams of all as-built and proposed structures and reports demonstrating compliance with specified requirements.

Response—Permit applications have been submitted the U.S. Army Corps of Engineers (404 permit), the San Francisco Bay Regional Water Quality Control Board (401 Water Quality Certification), and the California Department of Fish and Game (Streambed Alteration Agreement) for the construction of a permanent stormwater outfall to the lower channel of Coyote Creek. A copy of the 401 Water Quality Certification, which contains details of the outfall, is attached. The Applicant expects to have all permits in hand by the second quarter of 2004. Construction of the outfall will be in either the summer of 2004 or the summer of 2005.

4. Aquifer chemistry (Appendix B[g][14][B]):

A description of the hydrologic setting of the project. The information shall describe, in writing and on maps at a scale of 1:24,000, the chemical and physical characteristics of the following water bodies that may be affected by the proposed project: Ground water bodies and related geologic structures;

Information required to make AFC conform with regulations:

Please provide a table that specifies the chemical quality (constituent concentrations) of the shallow aquifer underlying the project site.

Response—See Table 8.15-S1.

Table 8.15-S1. Santa Clara Valley groundwater data and water quality objectives.

Constituent[1]	Median concentration in Lower Aquifer	Median concentration in Upper Aquifer	Drinking Water Standard[2,3]
Aluminum (ug/L[4])	6	54	1,000[2]
Arsenic (ug/L)	0.2	2	50[2]
Barium (ug/L)	159	92	1,000[2]
Boron (ug/L)	132	340	None
Cadmium (ug/L)	<1	<0.5	5[2]
Chloride (mg/L[5])	43	110	500[3]
Chromium (ug/L)	1	1	50[2]
Copper (ug/L)	2.7	0.6	1,000[2]
Fluoride (mg/L)	0.12	0.2	1.8[2]
Iron (ug/L)	11	115	300[3]

Constituent[1]	Median concentration in Lower Aquifer	Median concentration in Upper Aquifer	Drinking Water Standard[2,3]
Lead (ug/L)	0.6	<0.5	50[2]
Manganese (ug/L)	4	430	50[3]
Mercury (ug/L)	<1	<0.2	2[2]
Nitrate (mg/L)	11	0.03	45[2]
Selenium (ug/L)	1.5	0.9	50[2]
Silver (ug/L)	<1	<0.5	100[2]
Sulfate (mg/L)	46	161	500[3]
Total dissolved solids (mg/L)	420	991	1,000[3]
Zinc (ug/L)	5	6	5,000[3]

1 For common inorganic water quality constituents.
2. Maximum contaminant level as specified in Table 64431-A of Section 64431, Title 22 of the California Code of Regulations.
3. Secondary maximum contaminant level as specified in Section 64449, Title 22 of the California Code of Regulations.
4. ug/L = micrograms per liter
5. Mg/l = milligrams per liter
Source: California Water Resources Control Board. 2001. A comprehensive groundwater protection evaluation for South San Francisco Bay Basins, Draft for stakeholder review. Prepared by the Groundwater Committee of the California Regional Water Quality Control Board, San Francisco Bay Region. December 2001.

5. Coyote Creek (Appendix B[g][14][B][ii]):

Surface water bodies; and

Information required to make AFC conform with regulations:

Please provide specific quality, flow and volume information for Coyote Creek at the location affected by the project.

Response—Table 8.15-S2 shows peak, minimum, and average flows, based on 1999-2004 data from the United States Geological Survey stream flow gauge located on Coyote Creek near State Route 237. Water quality data is not available for this gauge through the U.S. Geological Survey.

Table 8.15-S2. Peak, minimum, and average daily flows, Coyote Creek near State Route 237, 1999-2004.

	Average[1]	Peak	Min
January	64.75	1,050	12
February	95.63	1,240	16
March	80.35	918	17
April	38.01	367	6.4
May	20.80	121	7.2
June	16.87	59	11
July	15.20	22	8.7
August	14.44	22	9.1
September	16.61	28	11
October	20.47	180	7.6
November	37.06	681	9.2
December	69.47	812	12

[1]All data in cubic feet per second (cfs).
Source: US Geological Survey Station # 11172175, January 1999 to February 2004.

6. Water agreements (Appendix B[g][14][C][i]):

A description of the water to be used and discharged by the project. This information shall include: Source of the water and the rationale for its selection, and if fresh water is to be used for power plant cooling purposes, a discussion of all other potential sources and an explanation why these sources were not feasible;

Information required to make AFC conform with regulations:

Please provide a copy of all executed water service agreement(s) for Phase 1. This information should include information on potable water suppliers to Phase 1.

Response—Potable water for drinking and emergency eyewashes is trucked to the LECEF site as necessary. With regard to the recycled water that is used for plant cooling purposes, a point of contact at the City of San Jose Environmental Services Department is Saroj Dhillon who can be reached at (408) 945-5189. A copy of the permit cover is attached. A stand-alone water services agreement does not exist. Rather, the permit from SBWR serves as the facility water services agreement.

7. Discharge water (Appendix B[g][14][C][ii]):

The physical and chemical characteristics of the source and discharge water;

Information required to make AFC conform with regulations:

Please provide actual, not estimated, physical and chemical data for source and discharge water for Phase 1. This information should include copies of any reports filed as required by applicable permits or approvals. Please include in this information any sampling results for storm water discharges to Coyote Creek.

Response—A copy of the September 2003 Self Monitoring Report for the LECEF discharge is attached. LECEF relies on the City of San Jose Environmental Services Department for source water quality (see AFC Table 8.15-3). As noted above, a point of contact within this department is Saroj Dhillon who can be reached at (408) 945-5189.

8. Water demand and waste water discharge (Appendix B[g][14][C][iii]):

Average and maximum daily and annual water demand and waste water discharge for both the construction and operation phases of the project; and

Information required to make AFC conform with regulations:

Please provide actual, not estimated, data on average and maximum daily and annual water demand and waste water discharge for operation of Phase 1.

Response—A copy of the document titled "LECEF 2003 Semi-annual Flow Data: March – August," for recycled water usage at the site is attached.

9. Recycled water supply lines (Appendix B[g][14][C][iv]):

A description of all facilities to be used in water conveyance, treatment, and discharge. Include a water mass balance diagram.

Information required to make AFC conform with regulations:

Please provide detailed information on all "as-built" features and facilities used in the conveyance, treatment and discharge of water for Phase 1. Include in this as-built information for the discharge structures in Coyote Creek and specific description of required changes for relocating this outfall.

Please clarify if there are one or two recycled water supply lines and, if there are two, why.

Response—Please refer to response No. 4 above for a description of the Coyote Creek outfall permitting process.

There is one recycled water line to the plant. The utility connection includes two meters (in parallel) sized by SBWR (utility providing the water). See AFC Figures 2.3-1 or 2.4-1 for location of existing recycled water line to the plant.

10. Runoff and drainage (Appendix B[g][14][D]):

A description of pre-, and post-construction runoff and drainage patterns, including:

Information required to make AFC conform with regulations:

Please provide adequate information on drainage patterns adjacent to the site, including features that may direct flows towards or away from the site. Please provide a diagram of the pre- and post- construction runoff and drainage information for the laydown area.

Response—Figure 8.15-S1 shows existing drainage patterns surrounding the project site, including the laydown area. Post-construction runoff and drainage will be the same.

11. Flow and volume of Coyote Creek (Appendix B[g][14][D][i]):

Precipitation and storm runoff patterns; and

Information required to make AFC conform with regulations:

Please provide flow and volume information for Coyote Creek during storm events.

Response—Table 8.15-S3 shows the highest daily flows for each month, between 1999 and 2004. This shows the variability in storm flows, from month to month and year to year.

12. Outfall permits (Appendix B[g][14][D][ii]):

Drainage facilities and design criteria.

Information required to make AFC conform with regulations:

Please provide detailed information on all "as-built features and facilities for Phase 1. Include in this information discussions and diagrams of changes required to these features and facilities to accommodate Phase 2. Please provide construction details, permit application information and permit or approval requirements/ criteria for the storm water outfall(s) in Coyote Creek.

Response—Please refer to response No. 3 above.

Table 8.15-S3. Highest daily flows per month, 1999, 2004, cubic feet per second.

Month	1999	2000	2001	2002	2003	2004
January	237	1,050	363	143	192	525
February	623	1,240	424	124	218	163
March	261	918	602	166	263	-
April	242	111	103	44	367	-
May	23	53	24	119	121	-
June	52	59	33	17	16	-
July	21	19	22	13	15	-
August	20	20	20	13	22	-
September	22	27	28	15	21	-
October	20	180	40	13	19	-
November	146	80	187	681	589	-
December	52	63	221	812	231	-
Maximum	623	1,240	602	812	589	525

13. Recycled water demand (Appendix B[g][14][E][i]):

An assessment of the effects of the proposed project on water resources. This discussion shall include: The effects of project demand on the water supply and other users of this source;

Information required to make AFC conform with regulations:

Please provide an assessment of the project's (as a whole) water demand impacts on other users of the recycled water product.

Response—Attached is a technical memorandum describing in detail the potential effects of the LECEF Phase 2 project on other users of recycled water from the San Jose/Santa Clara WPCP.

14. BMPs/Groundwater/Discharge (Appendix B[g][14][E][ii]):

The effects of construction activities and plant operation on water quality; and

Information required to make AFC conform with regulations:

Please provide an assessment of the performance of all practices implemented for Phase 1 to protect water quality (construction and operation). This information should include measures taken to remediate contaminated soils or water, best management practices for storm water management and any pretreatment or management practices for meeting waste water discharge requirements.

Please provide an assessment of potential effects to groundwater quality that could result from construction and operation of the project (both Phase 1 and 2). This information should include a

description of all best management practices implemented to protect soil and water resources from contaminants used in construction and operation.

Please provide an assessment of the impacts of the proposed project's waste water discharge on the South Bay Water Recycling programs recycled water product and other users of the recycled water. Please distinguish between changes in quality caused by Phase 1 versus Phase 2 and project as a whole.

Response—Please refer to responses 1, 2, 3, 7 and 13 above.

15. LORS (Appendix B[h][1][A]):

Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, and permits applicable to the proposed project, and a discussion of the applicability of each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed;

Information required to make AFC conform with regulations:

Please provide all specified information for applicable LORS, permits and approvals required and obtained for Phase 1. Other agencies involved in the permitting of the storm water outfall include the US Army Corps and Department of Fish and Game.

Response—Please refer to response No. 3 above.

16. Table of LORS (Appendix B[h][1][B]):

Tables which identify each agency with jurisdiction to issue applicable permits and approvals or to enforce identified laws, regulations, standards, and adopted local, regional, state and federal land use plans, and agencies which would have permit approval or enforcement authority, but for the exclusive authority of the commission to certify sites and related facilities.

Information required to make AFC conform with regulations:

Please provide all specified information for applicable LORS, permits and approvals required and obtained for Phase 1. Other agencies involved in the permitting of the storm water outfall include the US Army Corps and Department of Fish and Game.

Response—Please refer to response No. 3 above.

17. Agreements/ZLD/Permits (Appendix B[h][2]):

A discussion of the conformity of the project with the requirements listed in subsection (h)(1)(A).

Information required to make AFC conform with regulations:

Please provide copies of all executed wastewater or storm water discharge permits and agreements for Phase 1. Please provide reports, operational data, "as built" features, or analysis related to Phase 1 that discuss or demonstrate conformance with requirements specified in these permits and or agreements.

Please provide a discussion of the proposed project's conformity with the Commission's policy on the implementation of ZLD systems at power plants (Integrated Energy Policy Report, CEC, 2003, p. 36).

Please provide a description of specific changes or modifications that will be required to permits or agreements for Phase 1 to accommodate Phase 2.

Response—Please refer to response Nos. 2 and 3 above.

The Integrated Energy Policy Report for 2003, page 40, states the following: "Water quality impacts to surface water bodies, groundwater, and land from waste water discharges are increasingly controlled through technologies such as liquid discharge systems to meet the state's water quality standards." This statement acknowledges the importance of meeting water quality standards and recognizes that zero liquid discharge is one means of doing so. Also on page 40, the report cites State Water Resources Control Board (Board) Resolution 75-58, which articulates the Board's policy to "…encourage the use of wastewater for power plant cooling where it is appropriate." Because it uses recycled water, the LECEF is consistent with this policy.

Changes in permits and agreements will be as follows:

- A letter from the City of San Jose Environmental Services Department (attached) documents the City's willingness and ability to serve the LECEF project with sufficient recycled water for Phase 2
- The Industrial Wastewater Discharge Permit for LECEF will be renewed or amended to address the increase in wastewater discharge for Phase 2
- Agreements for the delivery of potable water will reflect a need for an increase in quantity, both for process water and because of the small increase in employees
- Permits related to storm water runoff will not change, as it is likely that there will be a decrease in runoff for Phase 2, due to the capture of rainwater in the cooling tower system.
- Because Phase 2 incorporates a steam turbine (is a steam power generating facility), the discharge permit for Phase 2 will incorporate the requirements under 40 CFR Subchapter N Part 423 for Categorical Facilities.

18. Agency contacts (Appendix B[h][3]):

The name, title, phone number, and address, if known, of an official within each agency who will serve as a contact person for the agency.

Information required to make AFC conform with regulations:

Please confirm that persons listed in this table are appropriate contacts for both Phase 1 and Phase 2. Please add contacts for the US Army Corps and Department of Fish and Game.

Response—Contacts are as follows:

Section 404 Clean Water Act

US Army Corps of Engineers, San Francisco District
Contact: Holly Costa, (415) 977-8438

Section 401 Water Quality Certification
San Francisco Bay Regional Water Quality Control Board
Contact: Brian Wines, (510) 622-5680)

Streambed Alteration Agreement
California Department of Fish and Game
Contact: Marcia Grefsrud, (707) 944-5520

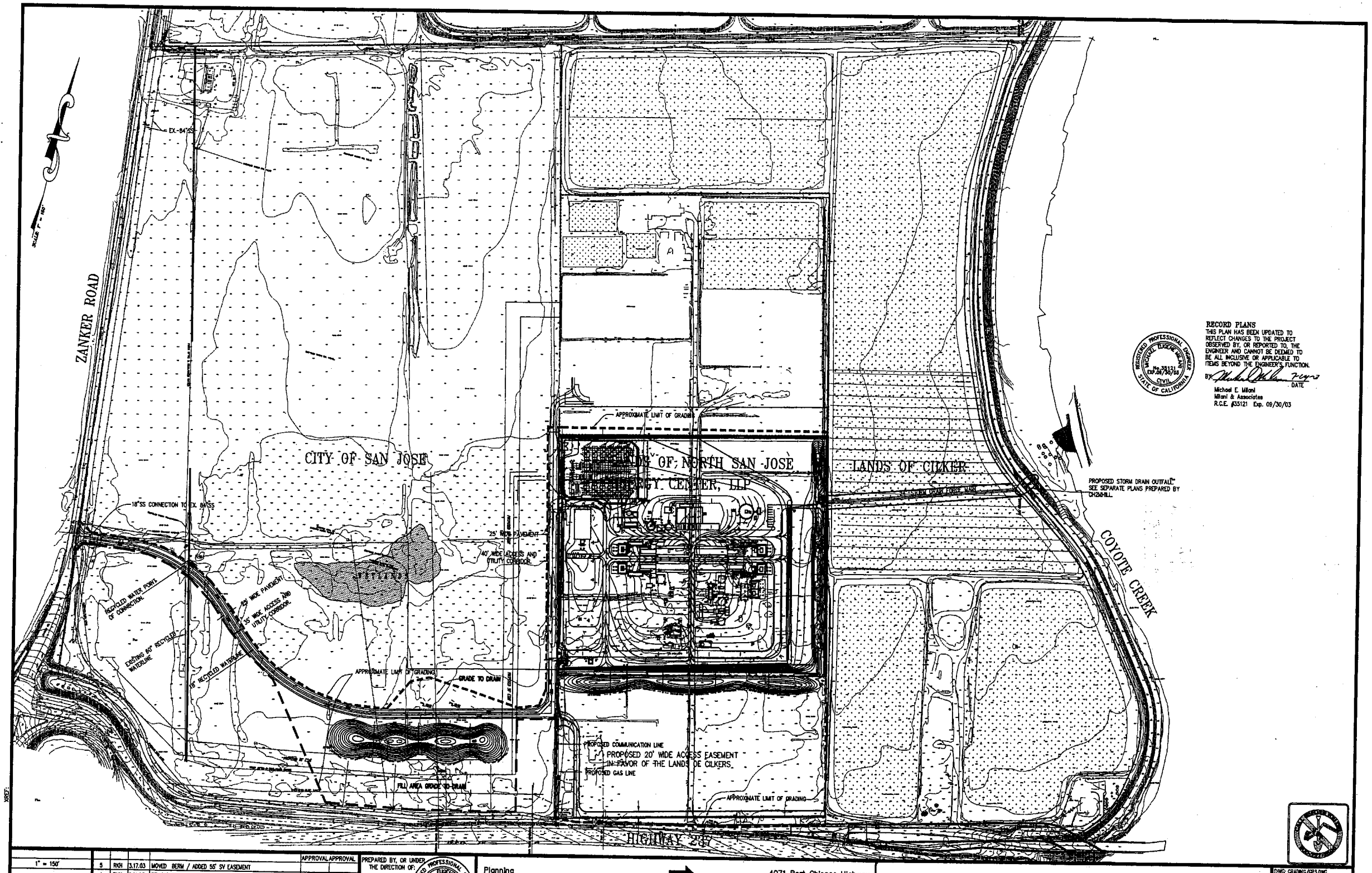
19. Permit schedules (Appendix B[h][4]):

A schedule indicating when permits outside the authority of the commission will be obtained and the steps the applicant has taken or plans to take to obtain such permits.

Information required to make AFC conform with regulations:

Please provide information regarding dates of application and permit issuance or approvals for Phase 1. Include in this information any revisions or modifications that may be required to these permits or approvals as a result of Phase 2.

Response—Please refer to response No. 3 above. With regard to the revised Industrial Wastewater Discharge Permit for Phase 2 discharge, the Applicant anticipates submitting an application to the WPCP approximately 6 months prior to the anticipated discharge from Phase 2.



RECORD PLANS
THIS PLAN HAS BEEN UPDATED TO REFLECT CHANGES TO THE PROJECT OBSERVED BY, OR REPORTED TO, THE ENGINEER AND CANNOT BE DEEMED TO BE ALL INCLUSIVE OR APPLICABLE TO ITEMS BEYOND THE ENGINEER'S FUNCTION.

BY: _____ DATE: _____

Michael E. Milani
Milani & Associates
R.C.E. #35121 Exp. 09/30/03

REGISTERED PROFESSIONAL ENGINEER — MICHAEL EUGENE MILANI — No. 35121 — Exp. 09/30/03 — CIVIL — STATE OF CALIFORNIA

NO.	BY	DATE	REVISIONS	BY	DATE
5	RKH	3.17.03	MOVED BERM / ADDED 55' SV EASEMENT		
4	RKH	2.11.03	REVISED WALL AND EARTH BERM		
3	RKH	2.11.03	REVISED FINISH GRADES		
2	RKH	9.5.02	MOVED N/S DITCH & SD TO THE EAST/ADDED WALL & BERM		
1	RKH	6.27.02	FINAL SUBMITTAL		

1" = 150'

SNAP SHOT:

XREF:

PREPARED BY, OR UNDER THE DIRECTION OF:
BY: M.E.M.
R.C.E. No. 35121
DATE:

REGISTERED PROFESSIONAL ENGINEER — MICHAEL EUGENE MILANI — No. 35121 — Exp. 09/30/03 — CIVIL — STATE OF CALIFORNIA

Planning
Surveying & Mapping
Land Development Engineering
Municipal Engineering
Construction Staking
Construction Management

Milani & Associates

4071 Port Chicago Highway
Suite 100
Concord, CA 94520
Phone: (925) 674-9082
Fax: (925)674-9279

Figure 8.15-S1

DWG: GRADING/GP3.DWG
SHEET 5 OF 7 SHEETS
JOB NO. 210043-10
PLOT DATE:

ATTACHMENT 8.15-S1

Amended Phase 1

Industrial Waste Water Discharge Permit

SAN JOSÉ / SANTA CLARA WATER POLLUTION CONTROL PLANT

CITY OF SAN JOSÉ
ENVIRONMENTAL SERVICES DEPARTMENT
ENVIRONMENTAL ENFORCEMENT PROGRAM

CONTRIBUTING AGENCIES

CITY OF SAN JOSÉ
CITY OF SANTA CLARA
COUNTY SANITATION DIST. NO. 2 - 3
BURBANK SANITARY DISTRICT
CUPERTINO SANITARY DISTRICT
City of Cupertino
CITY OF MILPITAS
SUNOL SANITARY DISTRICT
WEST VALLEY SANITATION DISTRICT
Cities of Campbell, Los Gatos
Monte Sereno and Saratoga

October 3, 2003

Mr. Charles Hoock
Calpine Corp. dba:
Los Esteros Critical Energy Facility
1515 Alviso-Milpitas Road
San Jose, CA 95134

Dear Mr. Hoock:

Enclosed is **Amended** Industrial Wastewater Discharge Permit No. SJ-488A, issued to Calpine Corp. dba: Los Esteros Critical Energy Facility, 1515 Alviso-Milpitas Road, San Jose, CA. This Permit **supersedes** the Industrial Wastewater Discharge Permit previously issued to your facility. Please note any special requirements in your Permit regarding equipment installation and the submittal schedule for self-monitoring reports.

Pursuant to the San Jose Municipal Code, Section 14.730, this Permit takes effect 30 days from the date of issuance. If the quantity or strength of the wastewater discharged from your facility substantially increases, **or your categorical status changes,** an application for a new permit must be submitted.

Prior to permit expiration, a new permit application must be submitted, accompanied by the appropriate permit fee. Applications received after the expiration date will be subject to delinquent fees.

Any questions or comments regarding your Permit should be directed to Tellis Hynes, the Environmental Inspector assigned to your company. Mr. Hynes may be reached at (408) 945-5466.

Sincerely,

RANDOLPH A. SHIPES
Deputy Director

Enclosure

cc: Dana Petrin, Gilroy Cogen

SAN JOSE/SANTA CLARA
WATER POLLUTION CONTROL PLANT
INDUSTRIAL WASTEWATER DISCHARGE PERMIT

STP CONNECTION FEES (San Jose only)			
Flow-gal/day:	73,000	Fee $	223,836
BOD lbs/day:	3.043	Fee $	289
SS lbs/day:	4.26	Fee $	539
NH3 lbs/day:	0.609	Fee $	30
TOTAL FEE		$	224,694
DATE PAID	09/30/02		

PERMIT NO: SJ-488A

EFFECTIVE DATE: 11/03/03

EXPIRATION DATE: 12/01/07

DATE OF ISSUE: 10/03/03

AMENDED DATE: 10/03/03

NAME OF COMPANY: CALPINE CORPORATION dba: LOS ESTEROS CRITICAL ENERGY FACILITY

MAILING ADDRESS: 1515 Alviso-Milpitas Road

San Jose, CA 95134

DISCHARGE ADDRESS: Same as above

EPA CATEGORY: Non-categorical

(Under 40 CFR)

SUBCATEGORY:

SIC NO: 4911

This Permit is issued under authority established in the San Jose Municipal Code, Chapter 15, Section 15.14.725, "Mandatory Wastewater Discharge Permits." It is the duty of the permittee to comply with all applicable federal, state, and local laws, whether expressly stated in this permit or not.

All spills, upsets and or accidental discharges into the storm or sanitary sewer must be reported immediately to the SJ/SC WPCP at (408) 945-5300.

Rev. 02/07/03

A. 1 FEDERAL DISCHARGE CONDITIONS FOR: Sample Point #2

Monitored by SJ/SC WPCP Using Appropriate Sampling

Pollutant	Federal Daily Max. mg/l	Federal Monthly Average mg/l	Federal 4-Day Average mg/l	Monitoring (see Key below)		EPA Test Method
				Type		
				Grab	Comp*	
Arsenic						
Cadmium						
Chromium						
Copper						
Cyanide (total)						
Cyanide (amenable)						
Lead						
Nickel						
pH (standard units)	>5.0			2		
Phenol & derivatives						
Silver						
Sulfides						
TTOs (1)						
Zinc						
Other						

* Composite Sample - As specified in Part B. 2 of this Permit

(1) Total Toxic Organics - The sum of Total Toxic Organic compounds which are applicable to the permittee, and are found to be present in the sample at concentrations greater than 10 micrograms per liter.

___ The Total Toxic Organic compounds applicable to your facility are listed at _____.

For Total Toxic Organics, the method detection limit must be .010 mg/l or less.

MONITORING KEY: 1 = Annually, 2 = Semiannually, 3 = Quarterly, 4 = Bimonthly, 5 = Monthly, 6 = Weekly

Compliance with Federal discharge limits set forth in this Permit will be monitored using analytical methods and detection limits specified in 40 CFR 136.

WHERE MORE THAN ONE LIMIT IS APPLICABLE, COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE DETERMINED USING THE MOST STRINGENT APPLICABLE LIMIT

The Federal limits set forth above are:

__X__ Concentration Based or discharges prohibited in 40 CFR 403.5

___ Production Based

___ Calculated using the Combined Wastestream Formula as specified in 40 CFR 403.6
See calculations, page 2a.

A. 2 LOCAL DISCHARGE CONDITIONS-INTERFERING SUBSTANCES FOR: Sample Point #2

Monitoring Conducted by SJ/SC WPCP

Pollutant	Local Max. mg/l	Monitoring Frequency (See Key below)	Pollutant	Local Max. mg/l	Monitoring Frequency (See Key below)
Antimony	5.0		Mercury	0.010	
Arsenic	1.0		Nickel	2.6	
Beryllium	0.75		Phenol & derivatives	30.0	
Cadmium	0.7		Selenium	2.0	
Chromium - Total	1.0	2	BOD		5
Copper	2.7	2	TSS		5
Cyanides	1.0	2	NH3		5
Cyanides	0.5		TTOs	2.13	
Lead	0.4		pH(standard units)	6.0-12.5	2
Manganese	35.0		Oil and Grease	150	

BOD=Biological Oxygen Demand, TSS=Total Suspended Solids, NH3=Ammonia

A. 3 LOCAL DISCHARGE CONDITIONS-AVERAGE CONCENTRATION LIMITS

Monitoring Conducted by SJ/SC WPCP

Group 1 Dischargers-Mass Equivalent Concentration Limit	Local Average mg/l	Monitoring Frequency (See Key below)
Copper		
Nickel		

Group 2 Dischargers-Daily Maximum Average Concentration Limit	Local Average mg/l	Monitoring Frequency (See Key below)
Copper-Average Annual Concentration	0.4	
Nickel-Average Annual Concentration	0.5	
Copper-Average Daily Concentration	1.0	
Nickel-Average Daily Concentration	1.1	

MONITORING KEY: 1 = Annually, 2 = Semiannually, 3 = Quarterly, 4 = Bimonthly, 5 = Monthly, 6 = Weekly

Frequency of Grab and Composite Sampling is subject to the discretion of the SJ/SC WPCP.

(2) Compliance with the local discharge limit for Total Toxic Organics (TTOs) is determined by the sum of Total Toxic Organic compounds listed at 40 CFR 401.15 and which are found to be present in the discharge at a concentration greater than ten (10) micrograms per liter.

The use of Diluting Waters as a partial or complete substitute for adequate treatment, to achieve compliance, or to meet any limitations set forth for wastewater, or to minimize any requirement imposed in a Wastewater Discharge Permit is prohibited.

B. SELF-MONITORING REQUIREMENTS

Any deviation from sampling or analysis protocols specified in this Permit or local, state, or federal code, or any violation of a condition of this Permit may result in the revocation of this Permit.

All wastewater pretreatment and monitoring equipment shall be properly operated and maintained in proper working condition.

Where pretreatment does not exist, all industrial wastewater shall be plumbed in such a way that a sample may be obtained after the process which generates the regulated wastestream, but prior to connection to the sanitary sewer system and prior to the introduction of any non-regulated or dilution flows.

If sampling performed for self-monitoring indicates a violation, the San Jose/Santa Clara Water Pollution Control Plant must be notified within 24 hours of the permittee becoming aware of the violation. The sampling shall be repeated, to document correction of the violation. The results must be submitted to the San Jose/Santa Clara Water Pollution Control Plant within 30 days. Testing shall be performed by a laboratory certified by the California Department of Health Services.

B. 1 SELF-MONITORING REPORTING REQUIREMENTS

All self-monitoring information shall be reported on the standard Self-Monitoring Reporting form, which may be obtained by contacting the San Jose/Santa Clara Water Pollution Control Plant. Reports shall be mailed or delivered to the following address, on or before the reporting deadline(s) specified below, and shall be addressed to the Source Control Inspector assigned to the permittee's facility.

San Jose/Santa Clara Water Pollution Control Plant
Source Control
700 Los Esteros Road
San Jose, CA 95134

X	All required self-monitoring reporting shall be submitted by the last day of the following reporting months, each year the Permit is in effect: MARCH and SEPTEMBER

The following shall be submitted with each Self-Monitoring Report:

X	Average daily flow in gallons/day
X	Maximum daily flow in gallons/day
X	Results of Part B.2 of this permit
	Water bills for reporting period
X	Copies of daily flowmeter totalizer readings
X	Verification of effluent flowmeter calibration must be submitted annually from the date of initial calibration with your March Self-Monitoring Report.
	Documentation of calculations for reported water use values
	Waste manifests for reporting period
	pH recorder charts
	Average production volume in _____ (units produced) per _____
X	Copies of self-monitoring analytical results, detection limits, documentation of the method used, and chain of custody, shall be submitted with the permittee's Self-Monitoring Report.
X	If the permittee monitors any pollutant required to be monitored in Part B.2 of this permit more frequently than required by this permit, using collection and analytical methods specified in 40 CFR 136, the result of this monitoring shall be included in the permittee's Self-Monitoring Report pursuant to 40 CFR 403.12(g)(5).
X	Documentation of the laboratory's quality assurance/quality control (qa/qc) shall be provided with the self-monitoring test results.

COMMENTS:

B. 2 SELF-MONITORING REQUIREMENTS-INTERFERING SUBSTANCES FOR: Sample Point #2

X	Samples shall be collected at the following sample point using methods specified in 40 CFR 136: Sample sump (see attached drawing on pages 6a and 6b).

COMPOSITE SAMPLES

Pollutant	Monitoring (See Key Below)
Arsenic	
Cadmium	
Chromium - Total	2
Copper	2
Lead	
Mercury	
Nickel	
Silver	
Zinc	2

GRAB SAMPLES

Pollutant	Monitoring (See Key Below)
Cyanide - Total	
Cyanide - Amenable	
Oil and Grease	
pH	2
TTOs [3]	

[3] Total Toxic Organics Testing and Certification Requirements:

	Total Toxic Organics will be analyzed using EPA method(s):
	In lieu of monitoring for Total Toxic Organics (TTOs), you may certify that they are not used or that a Solvent Management Plan is being implemented.
	Submit certification that no Toxic Organic Compounds are being stored, used or generated on site with each Self-Monitoring Report.
	Submit certification that a Solvent Management Plan is being implemented with each Self-Monitoring Report.

B. 3 AVERAGE CONCENTRATION LIMITS - MONITORING REQUIREMENTS

Group 1 Dischargers-Mass Equivalent Concentration Limit	Maximum Monitoring Frequency [4] (See Key below)
Copper	
Nickel	

Group 2 Dischargers- Daily Maximum Average Concentration Limit	Maximum Monitoring Frequency [4] (See Key below)
Copper	
Nickel	

MONITORING KEY: 1 = Annually, 2 = Semiannually, 3 = Quarterly, 4 = Bimonthly, 5 = Monthly, 6 = Weekly

[4] In accordance with Administrative Regulations for Industrial Wastewater discharge, monitoring may be conducted at a reduced frequency upon written approval from the Director.

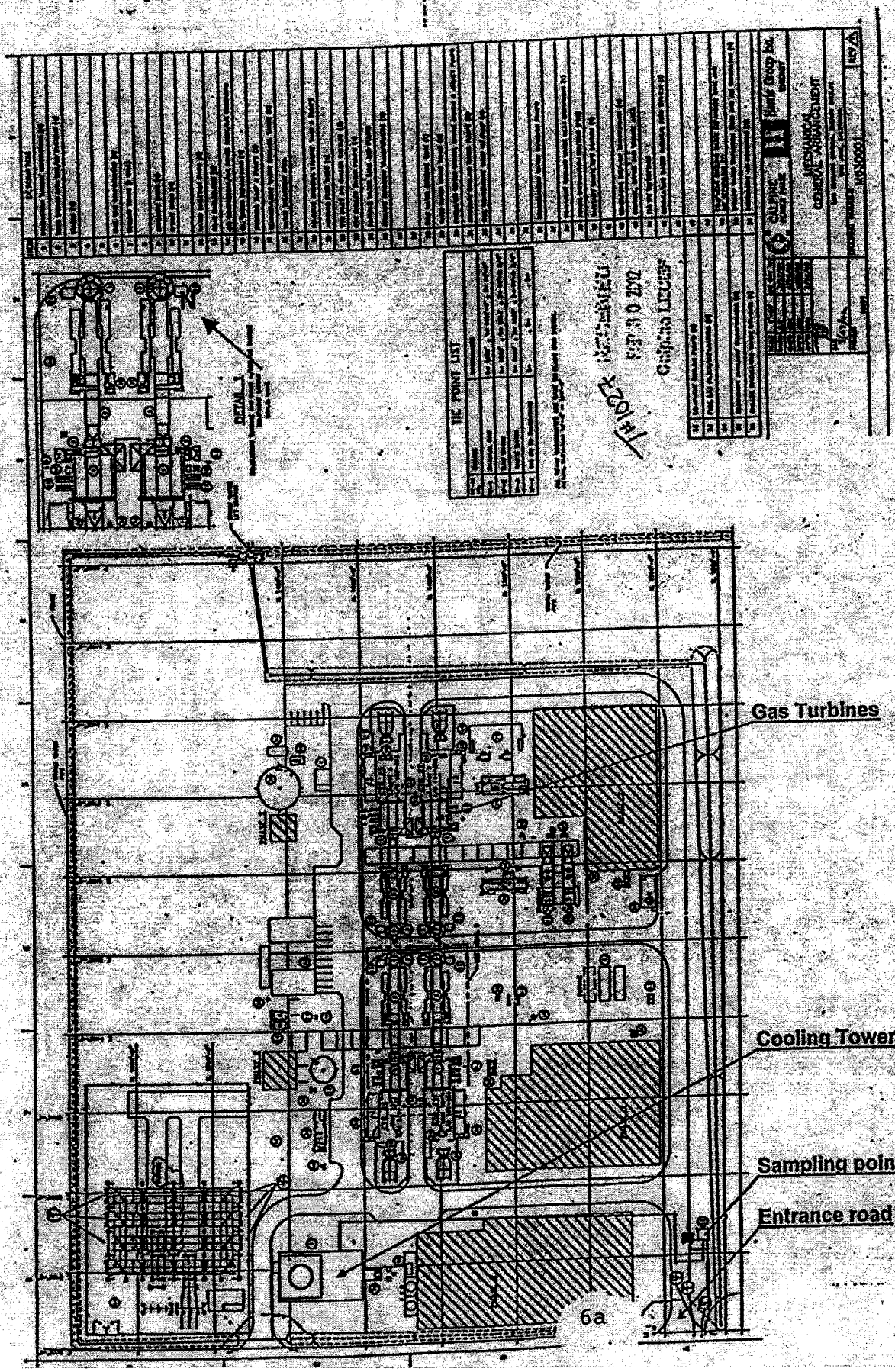
COMMENTS:

Calpine Corp. dba Los Esteros Critical Energy Facility

1515 Alviso-Milpitas Road

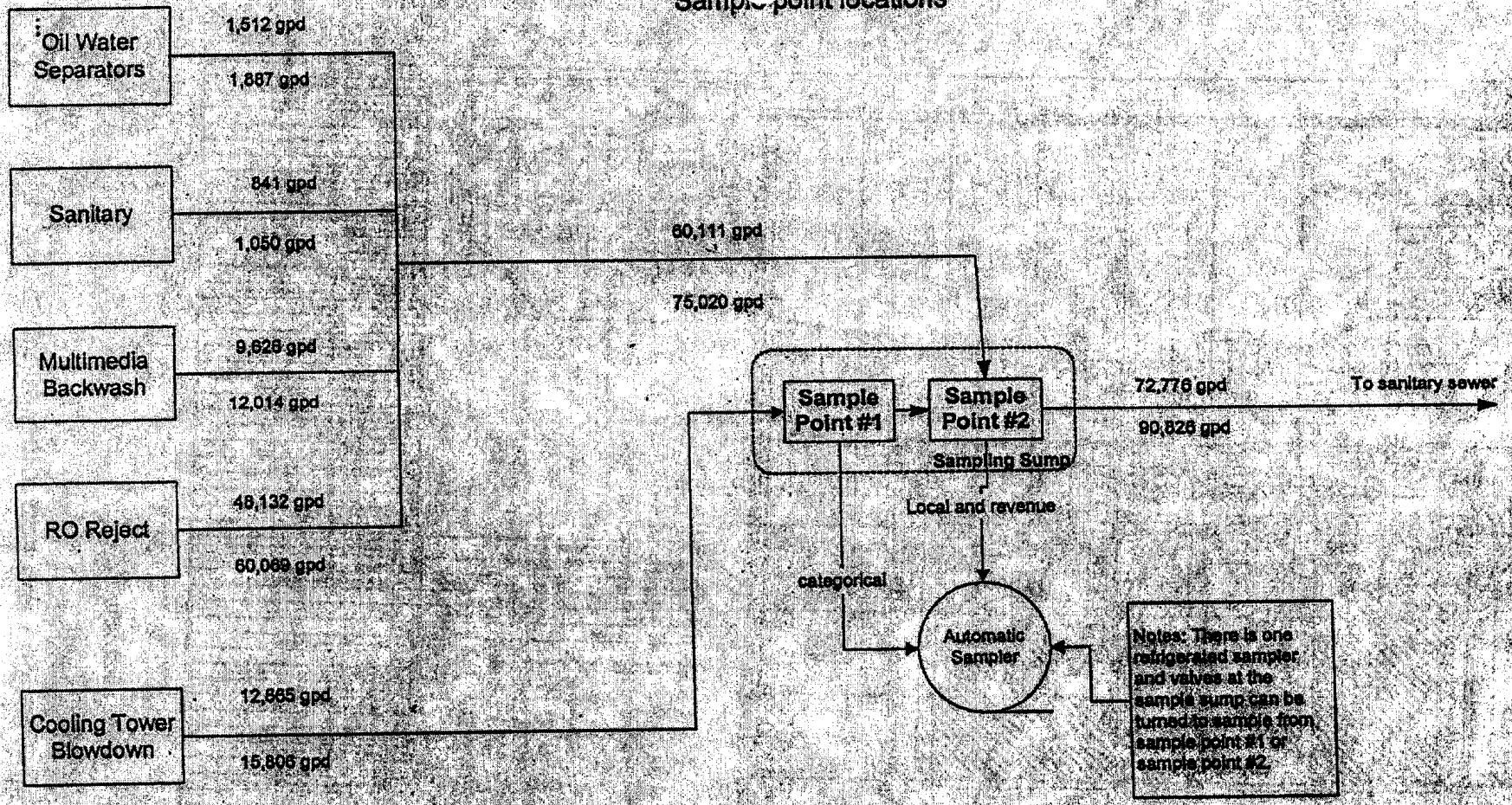
SJ-488A

sample point location



SJ-488

Wast ter Flowchart
Samp point locations



NOTE: Sample Point #1 is not in service

gallons listed are average gpd and max. gpd

B. 3 EQUIPMENT REQUIRED

X	COMPOSITE SAMPLER
X	Capacity: 2.5 gallons
X	Refrigerated to 4 degrees Centigrade
	Flow proportional
X	Time proportional

X	FLOW METER		
X	Continuous non-resettable totalizing meter		
X	Effluent totalizing all waste water from the facility		
X	Effluent from cooling tower blow down		With chart recorder
	Influent dedicated to process		

X	CONTINUOUS pH RECORDER 0-14 range at Sample Point #2

X	SAMPLING POINT (Clearly Labeled) FOR: Sample Point #2
X	Minimum 5 gallons
	Install within _____ days of the issuance date of this Permit
X	Clearly identified on a pretreatment plumbing diagram
X	Clearly identified on analytical results submitted with Self-Monitoring Reports

	OTHER

C. OTHER REQUIREMENTS

Within ____ days of Permit issuance, establish or install the following:

___ A non-resettable effluent totalizing flow meter

___ With recording capability

This flow meter shall be calibrated according to the manufacturers recommendations. Documentation of calibration shall be submitted with the results of Part B.2 of this permit.

___ A non-resettable influent totalizing flow meter dedicated to process.

___ A method of accurate flow quantification with documentation approved by the Director of Environmental Services

	Within 60 days of Permit issuance, a Waste Minimization Plan prepared in accordance with established guidelines must be submitted.
	Submit a Waste Minimization update annually in _____ of each year.
	Within 90 days of Permit issuance, a Solvent Management Plan prepared in accordance with established guidelines must be submitted. The permittee must certify that the Solvent Management Plan is being implemented.
	Within 90 days of Permit issuance for first time permittees, or by _____ for current permittees, a plan for the prevention of Slug Discharges must be submitted. The plan shall be prepared in accordance with the guidelines set forth at 403.8 (f) (2) (v). The permittee must certify that the Slug Prevention Plan is being implemented.
	See additional requirements attached as page(s) 8__.

D. COMPLIANCE SCHEDULE

__X__ None

_____ See compliance schedule established on _____ and found on page(s) 8___.

E. STIPULATIONS

APPLICABLE PENALTIES

Any person who intentionally or negligently violates any provisions of the Permit issued, or who intentionally or negligently discharges waste or wastewater which causes pollution, or violates any effluent limitation, National Standard of Performance, or National Pretreatment or Toxicity Standard, may be civilly liable to the City for a sum of up to Ten Thousand Dollars ($10,000) for the first day in which such violation occurs, up to Twenty-Five Thousand Dollars ($25,000) for the second day in which such violation occurs and Fifty Thousand Dollars ($50,000) for each additional day. Any violation of the local daily maximum discharge conditions, or any other violation of the San Jose Sewer Use Ordinance (San Jose Municipal Code, Section 15.14.110 et seq.) is punishable by a fine of up to One Thousand Dollars ($1,000.00) or imprisonment in the city or county jail for a period of up to (6) six months, or both such fine and imprisonment. Each day such violation continues is a separate offense. Violation of any of the provisions of this Permit or the falsification or misrepresentation of information by the industrial user may constitute a violation of local, state or federal law and may result in the revocation of the Permit and the issuance of a Cease and Desist Order.

BYPASS PROHIBITION

Bypass is prohibited unless it is unavoidable to prevent loss of life, personal injury, or severe property damage, or no feasible alternative exists. In the event of a bypass, the permittee shall adhere to the regulations set forth in 40 CFR 403.17.

DUTY TO MITIGATE

It is the duty of the permittee to mitigate or take all reasonable measures to lessen the duration and severity of any Permit violation.

NOTIFICATION OF DISPOSAL

Within 180 days of the commencement of discharge to the sanitary sewer of any substance which, if otherwise disposed of would be a hazardous waste under 40 CFR 261, the permittee is required to notify the EPA, the State and the San Jose/Santa Clara Water Pollution Control Plant of the discharge of these wastes, and anticipated discharges of these wastes over a calendar month and a calendar year. This reporting does not apply to the discharge of less than 15 kilograms per month unless the wastes are "acutely hazardous" wastes.

PROHIBITED SUBSTANCES

San Jose Municipal Code, Chapter 15.14 contains sections which prohibit the discharge of several substances and a number of additional types of pollutants. It is the duty of the permittee to become acquainted with these prohibitions, and to take all reasonable measures to assure that no violations of the prohibitions in Chapter 15 occur as a direct or indirect result of the permittee's activities or discharge.

NOTIFICATION OF CHANGE

All Permits are subject to the above conditions. Any substantial change in quantity or quality of the discharge as reported in the Permit application must be reported. In the event of such change, a new application may be required. In the event of any change in control or ownership, the Permit shall be canceled. Notification of such change shall be forwarded to the San Jose/Santa Clara Water Pollution Control Plant within 30 days of such change.

In the event that the permittee anticipates an average daily production or average daily flow increase of 20% or more for a period of more than 60 calendar days, the permittee shall notify the Director of Environmental Services in writing prior to the change. Upon receiving such notification, the Director of Environmental Services or his designee shall review the permittee's file and Permit, and shall implement any changes to the file and/or Permit deemed necessary to assure that the permittee is properly regulated in accordance with all applicable local, state, and federal regulations.

POWER TO INSPECT

Right of Entry onto the permitted facility must be granted to the Director of Environmental Services and other duly authorized employees and agents of the Control Authority bearing credentials and identification for the purpose of inspection, sampling of industrial wastewater and to examine and copy the industrial user records. At no time can wastewater effluent data be claimed or held as confidential information.

RECORD KEEPING

Records of monitoring activities for all samples shall be retained for a minimum of three years. Such records shall be available for inspection and copying by the Director of Environmental Services, and other duly authorized employees and agents of the Control Authority bearing credentials and identification. Records shall include the date, exact place, method and time of sampling and the names of the person or persons taking the sample, the dates analysis were performed, who performed the analysis, quality assurance and quality control data, the analytical techniques/methods used, and the results of such analysis.

SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provisions to other circumstances, and the remainder of this Permit, shall not be affected thereby.

SLUDGE AND HAZARDOUS WASTE DISPOSAL

The permittee has the responsibility for the proper disposal of pretreatment or other sludge and any hazardous wastes (e.g., spent chemicals) used or generated at the industrial user's facility so as to prevent the discharge of such materials to the San Jose/Santa Clara Water Pollution Control Plant or sanitary sewer.

SIGNATORY REQUIREMENTS

Reports submitted pursuant to Part B. 2 of this Permit shall be signed as follows:

1. By a responsible corporate officer if the Industrial User submitting the reports is a corporation. For the purposes of this Permit, a responsible corporate officer shall be defined as (A) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation or, (B) the manager of one or more manufacturing, production, or operation facilities, employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. By a general partner or proprietor if the industrial user submitting the reports is a partnership or sole proprietorship respectively.

3. By a duly authorized representative of the responsible corporate officer, general partner or proprietor, when that authorization is made in writing and submitted with the report. The authorization shall specify either an individual or a position having responsibility for the overall operation of the facility from which the industrial discharge originates, or having overall responsibility for environmental matters for the company. If an authorization under this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, or overall responsibility for environmental matters for the company, a new authorization satisfying the requirements of this section must be submitted to the Control Authority prior to or together with any reports to be signed by an authorized representative.

SUBMISSION OF PERMIT APPLICATION

Unless otherwise specified in the conditions of the existing Permit, a new Permit application must be submitted prior to the expiration date of an existing Industrial Wastewater Discharge Permit, and must be accompanied by the appropriate fees.

TERMINATION OF SERVICE, REVOCATION AND PERMIT MODIFICATION

Pursuant to Sections 15.14.710 and 15.14.730, the Director of Environmental Services may modify the Permit with thirty days written notice to the permittee, revoke the Permit with ten days written notice to the permittee, and/or suspend service if the permittee uses the sanitary sewer in a manner or way that endangers the public health or safety, or public or private property. If such endangerment is imminent, or for any other reason the Director of Environmental Services deems sufficient cause, the Director may act to suspend service immediately.

F. AGENCY APPROVAL

INSPECTOR'S INITIALS _____

CARL W. MOSHER
Director
Environmental Services Department

By: _____ 12/7/07
RANDOLPH A. SHIPES DATE
Deputy Director
Environmental Services Department
Watershed Protection Division

ATTACHMENT 8.15-S2

Clean Water Act Section 404 Permit Application

Phase 1 Storm Water Outfall

Los Esteros Critical Energy Facility
Permanent Stormwater Outfall

U.S. Army Corps of Engineers
Pre-Construction Notification

Applicant

Los Esteros Critical Energy Facility, LLC

Calpine Corporation

Prepared by:

CH2MHILL
Oakland, California

June 2003

Contents

1.0 Introduction

1.1 Project Objective

The objective of the proposed project is to construct a permanent stormwater outfall structure into Coyote Creek for the Los Esteros Critical Energy Facility (LECEF) in north San Jose (Figure 1). An existing 24-inch diameter (inside pipe) force main and temporary stormwater outfall currently discharges into Coyote Creek through the western Santa Clara Valley Water District (SCVWD) levee that confines Coyote Creek in the project area. The existing stormwater flow reaches Coyote Creek waters after discharging to the high flow channel on the inside of the levee. The temporary outfall has been permitted by SCVWD for a period not to exceed 36-months. The proposed permanent stormwater outfall would tie into the existing 24-inch force main outside (west) of the levee and would continue through an underground pipe to the edge of Coyote Creek's low-flow channel where the discharge stormwater outfall would be constructed.

The proposed project would replace the existing, temporary stormwater outfall by removing the overland flow component. The upgraded stormwater outfall would accommodate increased flows from the LECEF site without significant degradation of surface water quality in Coyote Creek. The overland flow component of the existing stormwater discharge would be replaced with a subsurface pipe that would carry the stormwater to an outfall at the western edge of the Coyote Creek low flow channel. Using jack and bore techniques to install the pipeline beneath the protective clay, will also help to preserve the integrity of the layer.

1.2 Project Location

The LECEF site is located in the northern portion of the City of San Jose, California at 1515 Alviso-Milpitas Road (See Figure 2). The site is on the north side of State Route 237. Coyote Creek and it's associated flood control channel are located east of the LECEF site. The channel is confined by SCVWD levees on the east and west sides of Coyote Creek.

The LECEF parcel is located on the San Jose West 7.5-minute Series Quadrangle in Township 6 South, Range 1 West. The proposed stormwater outfall location will be approximately 300 feet east of the existing stormwater outfall junction box located about 1,400 feet north of Alviso-Milpitas Road on the west side of the SCVWD levee (Figure 3).

1.3 Proposed Activity

The proposed activity is to construct a permanent stormwater outfall for the LECEF facility. The new stormwater outfall would be installed within the levee immediately adjacent on the north side of an existing outfall structure. The existing outfall structure has a low-flow flap gate on the east side of the levee. A new outfall is needed to provide permanent outfall

capacity for LECEF and vicinity stormwater drainage and to meet the long-term stormwater discharge requirements of the Los Esteros project.

The proposed stormwater outfall would tie into the existing 24-inch diameter (inside) pipe on the west side of the Santa Clara Valley Water District (SCVWD) levee. A 'jack and bore' installation method will be used to install a new 48-inch reinforced concrete pipe(RCP) beneath the SCVWD levee and the ground surface between Stations 1+22.00 and 3+70.00 (a distance of 248 feet) as shown on Figure 4. The remaining distance to the proposed outfall structure (Station 3+70.00 to 4+20.00± or approximately 50 feet) would be constructed using open trench methods.

The stormwater outfall structure would be constructed above and below the Ordinary High Water (OHW) associated with Coyote Creek as shown on Figure 5. The existing rock slope protection and geotextile materials would be removed prior to installation of the new structure while the surrounding areas are protected. New rock slope protection materials will be added once the outfall structure has been installed. The new materials will be matched in size and grade to the existing rock slope protection materials surrounding the outfall.

The proposed construction activities would be conducted during the summer months (after June 15) when flows in the Coyote Creek are expected to be low. Construction vehicles will be kept outside of the OHW mark for Coyote Creek. A temporary cofferdam will be installed around the proposed outfall location to dewater the construction site during construction. This will permit installation of new geotextile and grouted rock slope protection materials around the new outfall pipe. The cofferdam will also be used to allow the continued flow of Coyote Creek waters around the proposed work area and to keep the waters of Coyote Creek from contacting uncured grout during construction. The cofferdam will be removed after the outfall construction is complete. The Contractor will be responsible for providing information on the design, operation, dewatering, and removal of the cofferdam as part of the Storm Water Pollution Prevention Plan (SWPPP) to be submitted prior to construction activities.

The construction vehicles will access the outfall location from the SCVWD access road from within the same corridor that will be used for pipeline installation. A pre-construction survey of the proposed access route and work site will be completed by a biological construction monitor 24 to 48 hours prior to startup of clearing activities. The vegetation within the access areas will be cleared using hand-held power tools (e.g., machetes and weed wackers) rather than using vehicle-mounted tools to help minimize potential disturbance to sensitive resources. Once the access route and work area have been cleared, then Environmentally Sensitive Area (ESA) fencing will be installed and keyed into the ground to isolate the work areas and access route from surrounding natural areas. Existing trees within this construction corridor will also be protected from construction activities.

Construction Access/Staging Areas. The SCVWD currently maintains an access route along the top of the western Coyote Creek levee. This access road enters the Coyote Creek floodway just south of the existing 24-inch stormwater outfall. The access road on the east side of the levee is reinforced with concrete where the force main discharges through a low-

flow flap gate. Access to the outfall area will be from the SCVWD maintenance road. Construction access will extend eastward from the SCVWD roadway along the underground pipeline alignment. As shown on Figure 4, ESA fencing will be placed to limit the area the Contractor can use to access the outfall site. Construction material will be staged in the agricultural field on the west side of the SCVWD levee.

The new stormwater outfall will connect the 24-inch force main to a new 48-inch outfall pipe. The connection will be made in a new junction box located in the field outside (west) of the SCVWD right of way and outside the levee. The 48-inch pipe will extend form the junction box, under the levee, to the low-flow channel of Coyote Creek. Because an impervious clay layer was placed over most of the high-flow channel, as part of the channel improvements, most of the new outfall pipe will be installed by the "jack and bore" method. In this way the clay layer or the surface above it will not be disturbed. The jacking pit will be located outside the levee. The last 40 feet of the pipe length will be installed by the open trench ("cut and cover") method. The excavation to install this portion of the pipe will extend from the low-flow channel to a point about 40-50 feet upstream of the low-flow channel.

The existing west bank of the low-flow channel is lined with rock slope protection (RSP). The sloping portion of the RSP has an earth cover about three feet thick. At the point of the new outfall the earth cover will be removed and replaced with RSP for a width of about eight feet, extending from the channel bottom to two feet above the pipe. The RSP will match the existing earth cover upstream and downstream of the outfall.

1.4 Impacts to Waters of the U.S. (including Wetlands)

CH2M HILL conducted an initial investigation in December 2001 to determine the extent of the 'waters of the United States (including wetlands)' in the proposed stormwater outfall area. The site was revisited in May 2003 to assess current site conditions. The results of the investigation are summarized in a technical memorandum entitled, 'Assessment of Waters of the U.S. and Biological Resources at Proposed Outfall on Coyote Creek' (CH2M HILL, 2003), that is included as Attachment B.

The technical memorandum describes vegetation, soil, and hydrological conditions in the proposed outfall location, as well as the results of a reconnaissance-level biological survey. It also provides information on the history of flood control work for this reach of Coyote Creek. The field work was done to determine the Ordinary High Water (OHW) elevation for Coyote Creek (west bank) at the outfall location, which was established by ground-level survey of staked OHW locations.

The conclusion of the technical memorandum is that the Waters of the U.S. (including wetlands) are limited to the inside of the OHW mark for Coyote Creek. Furthermore, it was concluded that tidal fluctuations at the outfall location were also contained within the OHW of Coyote Creek. Therefore, the probable extent of jurisdictional wetlands at the outfall location is limited to the area between the east and west OHW elevations for Coyote Creek, pending verification by the US Army Corps of Engineers.

Based on the information in the technical memorandum, the proposed project will result in the following impacts to waters of the United States (including wetlands). The volume of existing rock slope protection material that will be removed below the OHW is 10 cubic yards. This will be replaced with the outfall pipe and similar rock slope protection materials to restore to the same stream bank profile. Note that the replacement volume will be slightly less than the removed volume because of the pipe opening. The plan view area below the OHW that would be disturbed is 260 sq. ft. (or 0.006 acre) and would extend about 6 feet on either side of the installed outfall. The adjacent, existing rock slope protection materials on either side of the outfall will be protected from disturbance during construction activities.

No mitigation for the permanent fill associated with stormwater outfall is proposed because of the small quantity of proposed fill (260 sq. ft.).

1.5 Impacts to Vegetation and Wildlife

Impacts to vegetation and wildlife associated with the project have been discussed in the Application for Certification (AFC) Biological Resources Section (see Attachment C). This section summarizes the findings of the AFC, and provides an update relative to changes in construction of the outfall within the OHW of Coyote Creek. Relevant excerpts from the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) (CH2M HILL, 2002) are included in Appendix D to provide details on measures that will be taken to minimize and offset impacts to sensitive biological resources.

Vegetation. Ruderal vegetation, composed of mostly non-native weedy grasses and herbs, characterizes most of the proposed LECEF outfall construction corridor. The proposed alignment will be completed within an area that was completely regraded as part of flood control measures done after the mid-1990's. The proposed activities will avoid any natural riparian areas and will protect planted trees within the corridor.

There were no special-status plants observed during previous surveys (CH2M HILL, 2001). Although no special-status plants were observed during the field survey, marginally suitable habitat exists for Congdon's tarplant (*Hemizonia parryi* ssp. *condonii*), alkali milk vetch, and Robust spineflower (*Chorizanthe robusta* var *robusta*). Historic activities within this reach of the Coyote Creek flooplain, however, has reduced the potential for these plant species to occur.

Pre-construction surveys will be conducted to verify presence of these three plants. If any special-status plant is found within the project area, staging or access areas will be relocated and the area surrounding the rare plant will be blocked off from construction and marked as ecologically sensitive. No impact to special-status plants and no significant impacts to vegetation will occur as a result of this project.

Wildlife. CH2M HILL biologist Gary Santolo conducted a reconnaissance-level survey around the proposed outfall location on December 19, 2001. While no special-status or protected species were identified during the surveys, it was recognized that the nearby riparian vegetation is likely to be utilized by many birds species. It is expected that these areas support a high nest density in the spring months. The presence of small mammal burrows in the vicinity of the proposed outfall indicates that these areas are likely foraging

zones for avian predators. Appropriate measures to minimize or avoid impacts to wildlife species are included in the BRMIMP that was submitted to the CEC and subsequently reviewed by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG).

Presence of other listed or protected species within Coyote Creek is assumed for the western pond turtle (*Clemmys marmorata*), Sacramento splittail (*Pogonichthys macrolepidotus*), delta smelt(*Hypomesus transpacificus*), winter-run chinook salmon (*Oncorhynchus tshawytscha*), Central Valley spring-run chinook salmon, Central Valley fall/late fall chinook salmon, and the Central Valley steelhead (*Oncorhynchus mykiss*). The California red-legged frog is assumed to be absent from project area according to surveys conducted for the SCVWD (H.T. Harvey 1997). Appropriate protective measures to avoid impacts to these species are included in the BRMIMP that was submitted to the CEC and subsequently reviewed by the U.S. Fish and Wildlife Service (USFWS), U.S. National Marine Fisheries Service (NMFS) and California Department of Fish and Game (CDFG).

The following mitigation/avoidance measures will be implemented to reduce impacts to winter-run chinook salmon, Central Valley spring-run chinook salmon, Central Valley fall/late fall chinook salmon, and the Central Valley steelhead:

- A June 15 to October 15 construction window for work in the sloughs;
- Flow through the active creek channel will not be impeded at any time;
- All disturbed riparian vegetation area will be restored to pre-construction condition and trees that may be removed along the slough banks will be replaced at a 3:1 ratio (on a stem count basis). Erosion and sediment control BMPs, including the use of clean fill, will be appropriately implemented.

2.0 Compliance with Nationwide Permit Conditions for NWP 7 and NWP 33

1. **Navigation.** Coyote Creek is not used for navigation (e.g., shipping traffic). Furthermore, the project will not reduce the cross section in Coyote Creek at the outfall location and, therefore will not affect the navigability of the creek.

2. **Proper Maintenance.** Maintenance of the proposed outfall will be undertaken regularly in accordance with local and State requirements.

3. **Soil Erosion and Sedimentation Controls.** To satisfy the requirements of the National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit, the applicant will submit a Notice of Intent (NOI) to the State Water Resources Control Board (SWRCB) and prepare a detailed Stormwater Pollution Prevention Plan (SWPPP). Best Management Practices (BMPs) for erosion control will be set forth in the SWPPP and further defined by the selected contractor. Erosion control BMPs may include: the careful use of grading management techniques, drainage ditches, straw bales, gravel filter berms, dikes, filtering devices, silt fences, and netting and slope drains. The BMPs will be implemented by the Contractor and monitored by both the Contractor and by construction monitors. The proposed activities will occur within Coyote Creek during late summer months when low flow conditions are anticipated. A Draft Erosion Control and Revegetation Plan from the BRMIMP is included in Attachment D.

4. **Aquatic life movements.** Except for the temporary cofferdam, the project will not result in a decrease in size of the open water habitat and therefore it will not impede aquatic life movements. The area will be returned to the original grade after construction. Project construction in designated spawning areas will occur only during the June 15 - October 15 work window, which is outside the spawning season for the winter-run chinook salmon, Central Valley spring-run chinook salmon, Central Valley fall/late fall chinook salmon, the Central Valley steelhead, the delta smelt, and the Sacramento splittail. The construction timing and implementation of measures to mitigate water quality and hydrology impacts will also minimize any adverse construction-related impacts on special-status fish species.

5. **Equipment.** Equipment for the stormwater outfall construction may require truck- and/or track-mounted cranes and excavators, pile drivers, tilt-bed trucks, concrete mixers and pumps, heavy trucks, electric generators, and air compressors. The vehicles

used to work within the Coyote Creek area will be kept above the OHW and outside of jurisdictional wetlands.

6. **Regional and Case-By-Case Conditions.** Notification is a regional condition of NWP 7 and NWP 33. This PCN is submitted to comply with this requirement. In addition, NWP 7 requires notification of the San Francisco Bay RWQCB through an application for a Section 401 Water Quality Certification and the project will comply with conditions of that permit. NWP 33 requires the preparation of a restoration plan of reasonable measures to avoid and minimize impacts to aquatic resources (see Attachment D).

7. **Wild and Scenic Rivers.** No waterways designated as a Wild and Scenic River will be impacted by the proposed project.

8. **Tribal rights.** The project will not involve tribal rights, including tribal water, hunting and/or fishing rights.

9. **Water Quality Certification.** An application for a Section 401Water Quality Certification will be submitted.

10. **Coastal Zone Management.** This project should not be subject to regulation by the San Francisco Bay Conservation and Development Commission (BCDC), which is responsible for managing coastal areas in the region. If BCDC determines that a permit for the proposed activities is required, the applicant will prepare and submit an application to BCDC.

11. **Endangered Species.** Potential impacts to endangered species in the project area will be avoided by implementation of mitigation measures such as: work windows, pre-construction surveys; avoidance of designated habitat, and potential transplanting of certain habitat vegetation. Specific mitigation measures are listed in the BRMIMP (Attachment D).

12. **Historic Properties.** A cultural resources investigation of the project area was completed as part of the Application for Certification (CH2M HILL, 2001). The investigation concluded that the LECEF project would not affect any known significant cultural resources. Because the proposed outfall will be constructed in an area of Coyote Creek that was modified for flood protection in the mid-1990's, the effect of the proposed project on cultural resources is negligible.

13. **Notification.** This document is the Notification required under this general condition. See Section 1 of this report for project description information and see Form 4345, attached, for items 1-3 of this notification requirement. A separate technical memorandum assessing Waters of the US (including wetlands) is enclosed with this PCN. As part of the California Energy Commission review process, resource agencies including USFWS, NMFS, and CDFG are asked to provide input on the AFC Biological Resources Section and the BRMIMP. The AFC input is incorporated into the CEC Staff Assessment (excerpts included in Attachment E). Acceptance of the BRMIMP by CEC is also contingent upon resource agency review.

14. **Compliance Certification.** The applicant will sign the authorization letter that will accompany the NWP verification certifying that the work and any required mitigation was completed in accordance with the permit conditions.

15. **Multiple Use of Nationwide Permits.** The applicant will be applying for a NWP 7, Outfall Structures and Maintenance, and NWP 33, Temporary Construction, Access and Dewatering. The combination of the two NWPs will not exceed any allowed fill amount.

16. **Water Supply Intakes.** This project will not affect any water supply intakes.

17. **Shellfish Beds.** No discharges are proposed near areas of concentrated shellfish production or occurrence.

18. **Suitable Material.** The project will use clean, rock slope protection (RSP) materials similar to those used in the adjacent stream channel to stabilize the completed outfall structure. The material will not contain trash, debris, car bodies, or asphalt and will be free of toxic pollutants.

19. **Mitigation.** The project will follow the mitigation measures proposed (BRMIMP in Attachment D) as well as construction BMPs to be detailed in the Contractor's SWPPP to avoid impacts to the aquatic environment. By implementing these measures, the project effects are expected to be minimal. Potential impacts to wildlife in the project area will be avoided by implementation of mitigation measures such as: a June 15 to October 15 construction widow, conducting pre-construction surveys, avoiding designated habitat, and transplanting certain habitat vegetation. Specific mitigation measures were listed the BRMIMP (Attachment D).

20. **Spawning areas.** The timing of the proposed work in Coyote Creek will be done to avoid potential impacts to fisheries. Project construction in designated spawning areas

will occur only during the June 15 - October 15 work window, which is outside the spawning season for the winter-run chinook salmon, Central Valley spring-run chinook salmon, Central Valley fall/late fall chinook salmon, the Central Valley steelhead, the delta smelt, and the Sacramento splittail. Other mitigation measures include minimization of erosion and sedimentation, the use of clean fill, maintaining flow through the active creek channel, and revegetation along the creek banks.

21. **Obstruction of high flows.** No elements of the project will obstruct flows.

22. **Adverse impacts from impoundments.** No impoundments will be constructed as part of the project.

23. **Waterfowl breeding areas.** The project area is not a significant breeding area for waterfowl. Important waterfowl breeding areas are located in the South Bay including the Don Edwards San Francisco Bay National Wildlife Refuge about 1 mile north of the proposed outfall. Given that the proposed construction activities will be of relatively short duration and extent and will occur in the summers months outside of the breeding season, it is expected that the effect of the project on waterfowl breeding will be negligible.

24. **Removal of temporary fills.** All temporary fill materials used during construction will be removed after construction and the sloughs will be returned to the original grade.

3.0 Compliance with San Francisco District Regional NWP Conditions

As of May 9, 2002, several regional conditions to the newly reissued nationwide permits became effective. The purpose of the regional conditions was to assure proper assessment and protection of aquatic resources and that the nationwide permits would have minimal impacts. The following section assesses the compliance of the proposed LECEF permanent stormwater outfall with the San Francisco regional conditions.

A. Regional Conditions that apply to all NWPs in the San Francisco District of the Corps of Engineers:

1. *Notification to the Corps (as per General Condition No. 13) is required for any activity permitted by NWP if it will take place in waters or wetlands of the U.S. that are within the San Francisco Bay diked baylands (undeveloped areas currently behind levees that are within the historic margin of the Bay. Diked historic baylands are those areas on the Nichols and Wright map below the 5-foot contour line, National Geodetic Vertical Datum (NGVD).* The LECEF project and the proposed permanent stormwater outfall occur outside of the diked historic baylands and are above the 11-foot elevation contour (NGVD).

2. *Notification to the Corps (as per General Condition No. 13), including a compensatory mitigation plan, is required for any activity permitted by NWP if it will take place in eelgrass beds.* The proposed LECEF permanent stormwater outfall is inland of the bay and will not take place within or near any eelgrass beds.

3. *Notification to the Corps (as per General Condition No. 13) is required for any activity permitted by NWP in Essential Fish Habitat (EFH) designated by the Pacific Fishery Management Council (examples of designated EFH are, but not limited to: the Pacific Ocean, estuaries like Tomales, San Francisco and Humbolt Bays, and watersheds utilized by coho and chinook salmon). Notification under this regional condition is not required if another Federal Agency completed consultation with the National Marine Fisheries Service on EFH, and the project is either authorized by a non-reporting NWP, or does not require notification by another regional condition.* The project will occur along Coyote Creek, which is used for migration to upstream spawning areas by fall-late fall run chinook salmon, and therefore, considered as EFH. This PCN serves as notification to the Corps to satisfy this condition.

4. *Mitigation that is required by special condition to the permitted activity shall be completed before or concurrent with project construction. Where project mitigation involves the use of a mitigation bank or in lieu fee, the required payment must be made before commencing construction of the permitted activity. If the permittee cannot comply with this condition, the permittee shall provide the Corps with sound reasons why this condition cannot be met, and shall propose reasonable alternatives to ensure the required mitigation will be fully met and completed in a timely manner.* Mitigation for the proposed LECEF permanent stormwater

outfall are described in the BRMIMP. The measures include revegetation of disturbed ruderal grassland habitats and use of construction BMPs to minimize or avoid adverse impacts to terrestrial and aquatic natural resources. While existing trees and shrubs will be protected to the degree possible, any removal of these plants will be mitigated with replacements in kind within the construction areas. Furthermore, it has also been proposed to offset potential LECEF project impacts through contribution to the Riparian Enhancement Project along an upstream Coyote Creek tributary, Fisher Creek (as described in Attachment D).

5. *For NWPs 39, 40, 42 and 43, the 300 linear foot limitation for intermittent streams includes ephemeral streams. Any request to waive the 300 linear foot limitation for intermittent (including ephemeral) streams must include an analysis of the impacts to the stream environment, measures taken to avoid and minimize losses (as per General Condition 13 (b)(12)), other measures to avoid and minimize filling but were found not to be practical, and a mitigation plan as to how the unavoidable losses will be offset.* This condition does not apply to the proposed LECEF permanent stormwater outfall, which will be completed under NWP 7 and NWP 33. Furthermore, the proposed outfall is located on Coyote Creek (a perennial stream) and will impact less than 20 feet of streambank.

B. Regional Conditions that apply to specific NWPs: (Note: of the listed NWPs, only NWP 7 [Outfall Structures and Maintenance] is applicable to the proposed LECEF permanent stormwater outfall.)

1. *To the extent practicable, excavation equipment shall work from an upland site (e.g., from the top of the bank, the road bed of the bridge or culverted road crossing) to minimize adding fill into waters of the U.S. If it is not practicable to work from an upland site, or if working from the upland site would cause more environmental damage than working in the stream channel, the excavation equipment can be located within the stream channel but it must minimize disturbance to the channel (other than the removal of accumulated sediments or debris). As part of the notification to the Corps (General Condition No. 13), an explanation as to the need to place excavation equipment in waters of the U.S. is required, as well as an explanation of any additional necessary fill (e.g., cofferdams, access road, fill below the OHW mark for a staging area, etc.).* Equipment used in the construction of the proposed LECEF permanent stormwater outfall will be kept out of the Coyote Creek channel. Construction will take place from the upland west bank of Coyote Creek. A cofferdam will be used to divert active stream flows around the outfall during construction and to limit adverse impacts to stream water quality. About 10 cubic yards of existing (1/4 ton) rip rap will be removed from below the OHW mark and replaced with similar material and the outfall structure and matched to pre-construction grades.

4.0 Site Specific Public Interest Factor Information

TABLE 1. SITE SPECIFIC INFORMATION ON PUBLIC INTEREST FACTORS (AS PER CORPS OF ENGINEERS PUBLIC NOTICE 97-3, MARCH 28, 1997)	
Public Interest Factor	**Project Impact**
1. Conservation	No significant effect on conservation interests will occur given the small amount of disturbance to occur.
2. Economics	Positive indirect impact on economics associated with improved energy infrastructure for LECEF project.
3. Aesthetics	The proposed outfall will be constructed in a recently restored area that lacks riparian vegetation. A temporary change in the visual character of the area will occur due to construction activities and impacts. However, aesthetic impacts will be temporary and are considered less than significant.
4. General Environmental Concerns	The construction of the new stormwater discharge outfall will result in less than significant environmental effects.
5. Fish and Wildlife Values	The project has the potential for temporary effects to several special-status species. The following mitigation/avoidance measures will be implemented to reduce impacts to fish species: • A June 15 to October 15 construction window for the work in the Coyote Creek; • No more than half the width of Coyote Creek channel will be blocked at any time; • All riparian vegetation removed along the Coyote Creek banks will be restored, trees will be replaced at a 3:1 ratio (on a stem count basis); and • The use of erosion and sediment control BMPs, including the use of clean fill. In addition, potential impacts to wildlife in the project area will be avoided by implementation of mitigation measures such as: conducting pre-construction surveys; avoiding designated habitat, and transplanting certain habitat vegetation. Specific mitigation measures are listed in BRMIMP, excerpt attached, and/or developed by coordination with appropriate resource agencies.
6. Flood Hazards	No adverse effect to flood values will occur as a result of the outfall construction.

TABLE 1. SITE SPECIFIC INFORMATION ON PUBLIC INTEREST FACTORS (AS PER CORPS OF ENGINEERS PUBLIC NOTICE 97-3, MARCH 28, 1997)	
Public Interest Factor	**Project Impact**
7. Floodplain Values	There will be no net loss of Waters of the U.S. due to the project. Floodplain values, including flood-storage, riparian habitat, and wildlife corridors, will not be adversely impacted by the proposed project.
8. Land Use	The stormwater outfall project will not change the existing or planned land use in the area.
9. Shoreline Accretion	This area is inland from the shoreline. No shoreline accretion will occur.
10. Recreation	The project is not expected to affect the potential for recreation in the area.
11. Water Supply and Conservation	Construction of the proposed stormwater outfall will not affect the reliability of the water supply and existing conservation.
12. Energy Needs	The proposed project will have a positive effect on energy needs by supporting the LECEF project.
13. Safety	The proposed stormwater outfall upgrade will benefit public health and safety by decreasing the potential for overcharging the existing stormwater system and eliminating the overland flow component that can transport sediment into Coyote Creek.
14. Food and fiber Production	This public interest factor is not applicable to the project.
15. Mineral Needs	This public interest factor is not applicable to the project.
16. Considerations of Property Ownership	No changes in property ownership will result from implementation of the project.
17. Needs and Welfare of the People	This project would result in a marginal benefit to the public by reducing sediment transport into Coyote Creek from overland flow from the existing stormwater outfall and by upgrading to accept anticipated storm flows.

5.0 References

California Energy Commission (CEC). 2001. Staff Assessment

CH2M HILL. 2001. Los Esteros Critical Energy Facility Application For Certification. Prepared for C* Power. Dated August 3, 2001. Received by California Energy Commission (Docket 01-AFC-12) August 6, 2001. Deemed complete on September 25, 2001.

CH2M HILL. 2002. Biological Resources Mitigation Implementation and Monitoring Plan for Los Esteros Critical Energy Facility. Prepared for C* Power. Dated March 2002.

CH2M HILL. 2003. Technical Memorandum: Assessment of Waters of the U.S. and Biological Resources at Proposed Outfall on Coyote Creek', May 13, 2003.

H.T. Harvey and Associates. 1997. Santa Clara Valley Water District California Red-legged Frog Distribution and Status - 1997. Report prepared for the Santa Clara Valley Water District, June 3, 1997.

Exhibits

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (33 CFR 325)	OMB APPROVAL NO. 0710-0003 Expires December 31, 2004

The Public burden for this collection of information is estimated to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research and Sanctuaries Act, 33 USC 1413, Section 103. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE *(an agent is not required)*
Peter Hansen / Rick Tetzloff	René Langis, Environmental Scientist
6. APPLICANT'S ADDRESS Los Esteros Critical Energy Facility, LLC C/O Calpine Corporation 805 SW Broadway, Suite 1850 Portland, OR 97205	7. AGENT'S ADDRESS CH2M HILL 155 Grand Ave, Suite 1000 Oakland, CA 94612
7. APPLICANT'S PHONE NOS. W/AREA CODE	10. AGENT'S PHONE NOS. W/AREA CODE
a. Residence b. Business 503/552-3781	a. Residence b. Business 510/587-7774

11. STATEMENT OF AUTHORIZATION

I hereby authorize René Langis to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE — DATE: 6/10/03

NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE *(see instructions)*

Los Esteros Critical Energy Facility Permanent Stormwater Outfall

Note: this application is for a PCN under Nationwide Permits 7 and 33.

13. NAME OF WATERBODY, IF KNOWN *(if applicable)*	14. PROJECT STREET ADDRESS *(if applicable)*
Coyote Creek	See Exhibit 1 for project location.
15. LOCATION OF PROJECT Santa Clara (COUNTY) — California (STATE)	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

USGS 7.5 minute series Milpitas, CA Topographic Map

17. DIRECTIONS TO THE SITE

The proposed outfall location is located within the western SCVWD levee about 1,400 ft. north of the Alviso-Milpitas Road. Drive south on McCarthy Ranch Road from Dixon Landing Road, turn right on Ranch Road, follow west levee north along Coyote Creek.

18. Nature of Activity *(Description of project, include all features)*

See Attachment

19. Project Purpose *(Describe the reason or purpose of the project, see instructions)*

See Attachment

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

See Attachment

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

See Attachment, Section 1.4

22. Surface Area in Acres of Wetlands or Other Waters Filled *(see instructions)*

See Attachment, Section 1.4

23. Is Any Portion of the Work Already Complete? Yes ___X___ No _____ IF YES, DESCRIBE THE COMPLETED WORK

The Phase 1 portion of the Los Esteros Critical Energy Facility is nearing completion, including a temporary outfall that discharges into the high flow channel. No work on the proposed permanent stormwater outfall has been initiated.

24. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

This is a PCN Notification Submittal. Information on adjacent property owners does not need to be included (as per Public Notice 97-3).

25. List of Other Certifications or Approvals/Denials Received from other Federal, State, or Local Agencies for Work Described in This Application

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
CEC	Application for Certification	01-AFC-12	August 6, 2001	September 25, 2001	N/A

Authorization has been obtained from CEC for Phase 1 of this project (simple cycle plant). Other permits will be sought for the outfall construction from: San Francisco Bay RWQCB, CDFG and SCVWD, and BCDC (if required).

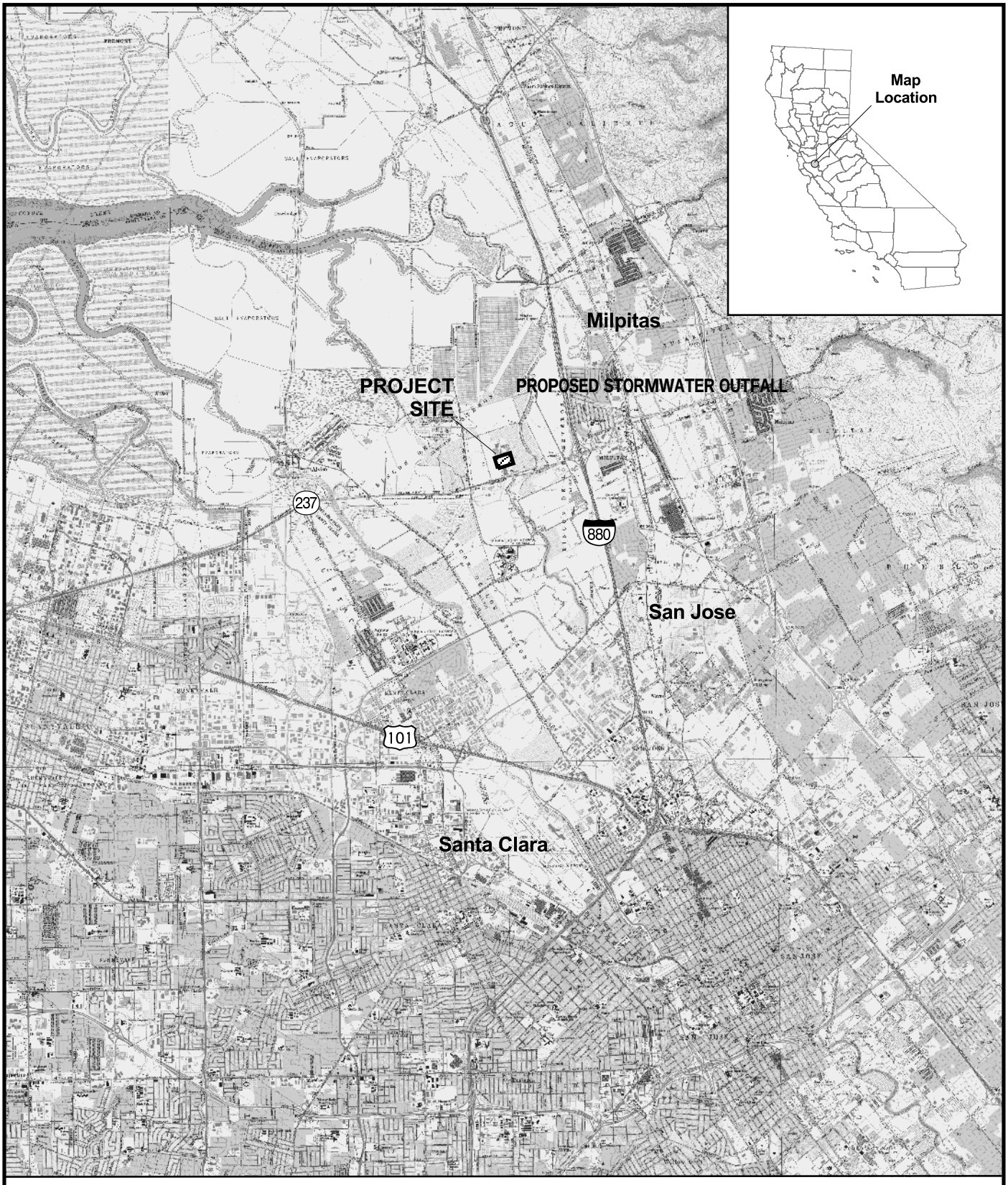
*Would include but is not restricted to zoning, building and flood plain permits

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.



LEGEND

PROJECT SITE

N

5000 0 5000 Feet

SCALE IS APPROXIMATE
1:100000

FIGURE 1
GENERAL VICINITY MAP

PROPOSED STORMWATER OUTFALL
LOS ESTEROS CRITICAL ENERGY FACILITY

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\san_jose\base_map.apr 2:39 p.m. 07-27-2001

CH2MHILL

E052003003SAC FIG_1.pdf 5-13-03 dash

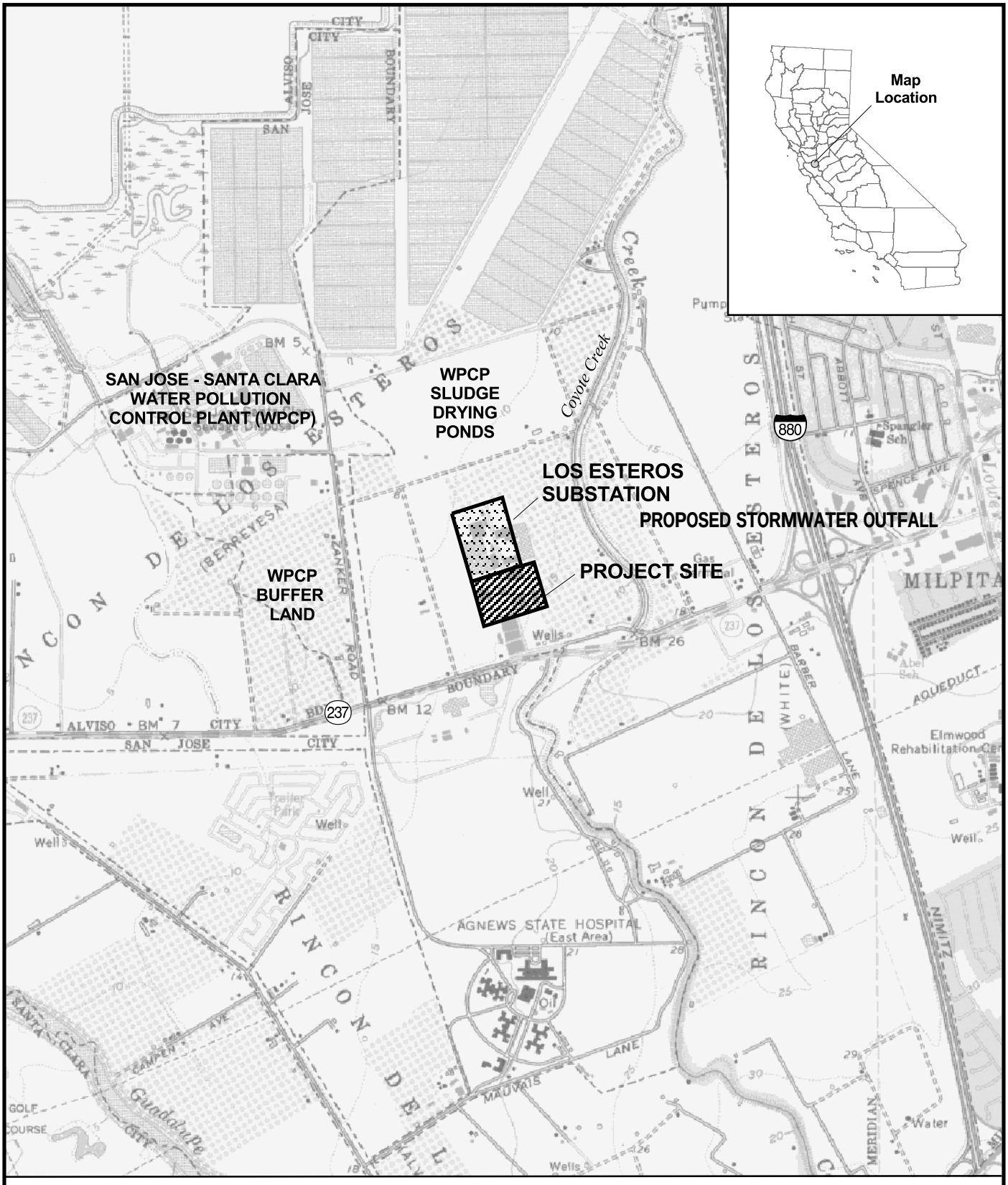


FIGURE 2
SITE LOCATION MAP

PROPOSED STORMWATER OUTFALL
LOS ESTEROS CRITICAL ENERGY FACILITY

CH2M Hill RDD ArcView Project File \\Thor\Cart1\rddgis\san_jose\base_map.apr 2:49 p.m. 07-27-2001

CH2MHILL

E052003003SAC FIG_2.pdf 5-13-03 dash

LECEF SITE

LOS ESTEROS SUBSTATION

PRIMARY ACCESS ROADS

STORM WATER LINE

PROPOSED

EXISTING

N

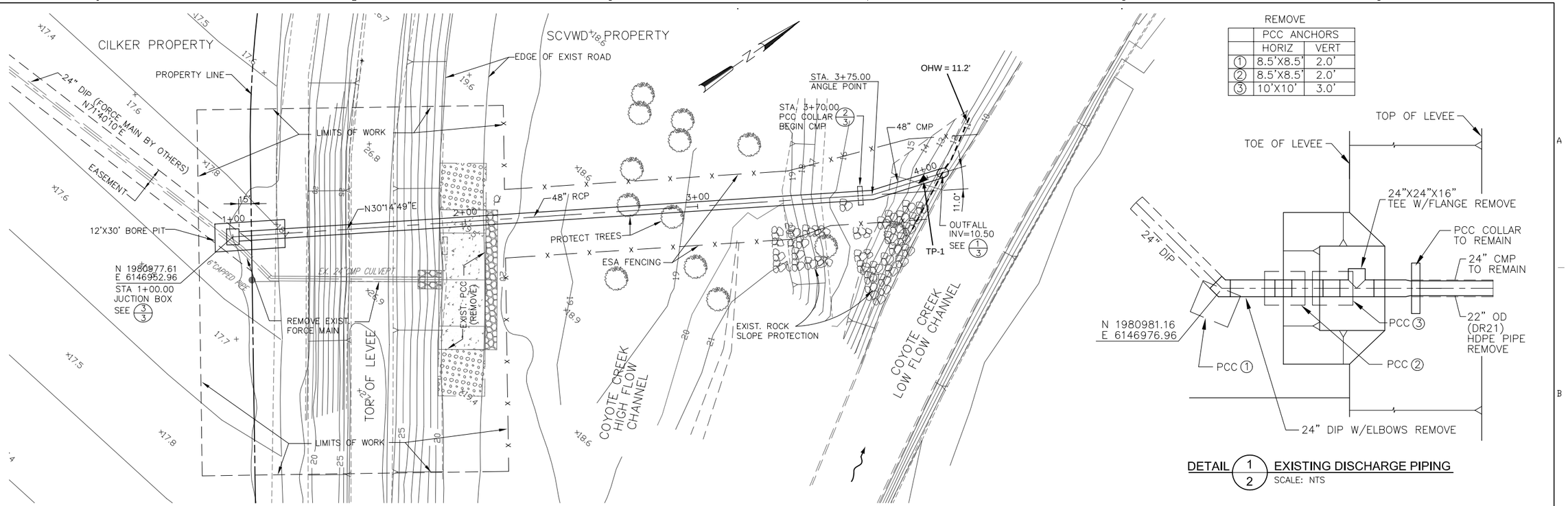
200 0 200 Feet

SCALE IS APPROXIMATE

FIGURE 3
PROPOSED STORMWATER OUTFALL FOR LOS ESTEROS CRITICAL ENERGY FACILITY

CH2MHILL

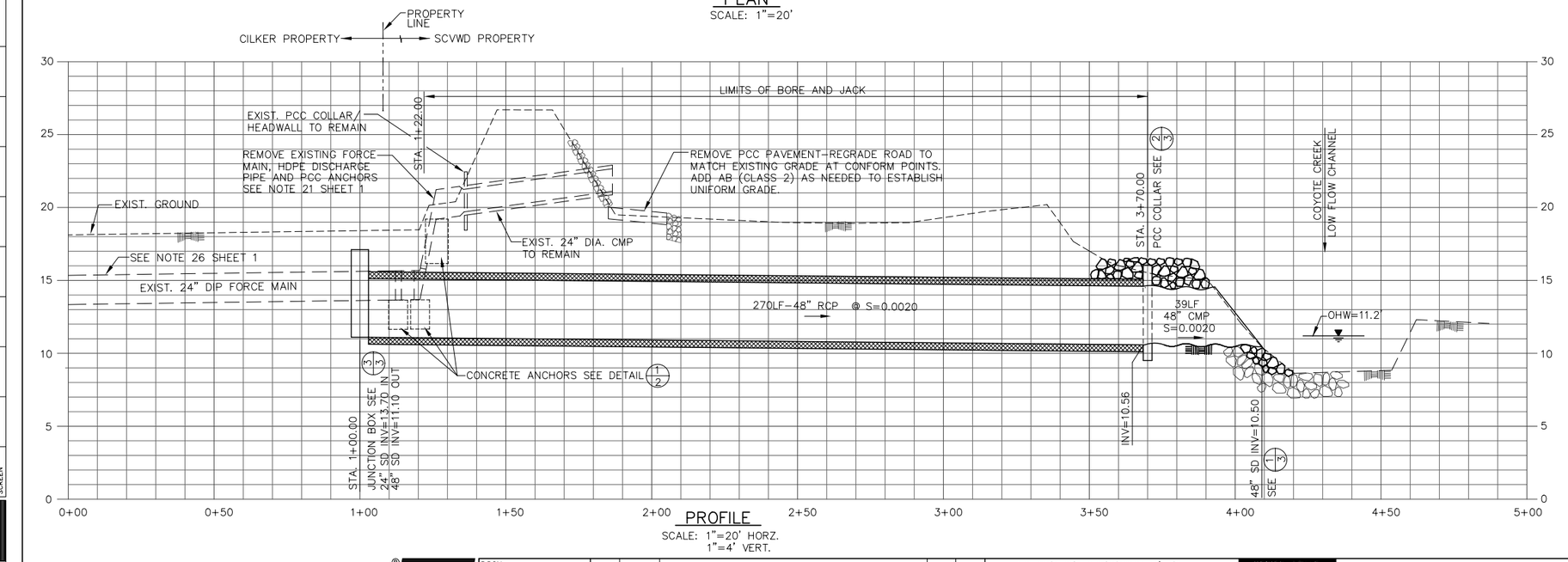
E052003003SAC_Los_Esteros Fig_3.ai 6/10/03 dash



PLAN
SCALE: 1"=20'

REMOVE	PCC ANCHORS	
	HORIZ	VERT
①	8.5'X8.5'	2.0'
②	8.5'X8.5'	2.0'
③	10'X10'	3.0'

DETAIL 1/2 EXISTING DISCHARGE PIPING
SCALE: NTS



PROFILE
SCALE: 1"=20' HORZ.
1"=4' VERT.

FIGURE 4

0 20 40 60
SCALE 1"=20'

1737 N. FIRST STREET, SUITE #300
SAN JOSE, CALIFORNIA 95112-4524
(408)436-4909

CH2M HILL

DSGN	B.M.M.
DR	J.C.
CHK	D.V.R.
APVD	B.M.M.

NO.	DATE	REVISION	BY	APVD

SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

LOS ESTEROS
CRITICAL ENERGY FACILITY
SAN JOSE, CALIFORNIA

PERMANENT
STORM DRAINAGE OUTFALL
PLAN AND PROFILE

SHEET	2
DWG NO.	2 OF 3
DATE	03/25/03
PROJ NO.	179091

CHECKED BY
DRAWN BY
DESIGNED BY
COMPOSITE OVERLAY SCREEN
OVERLAY IDENTIFICATION PRELIM FILE

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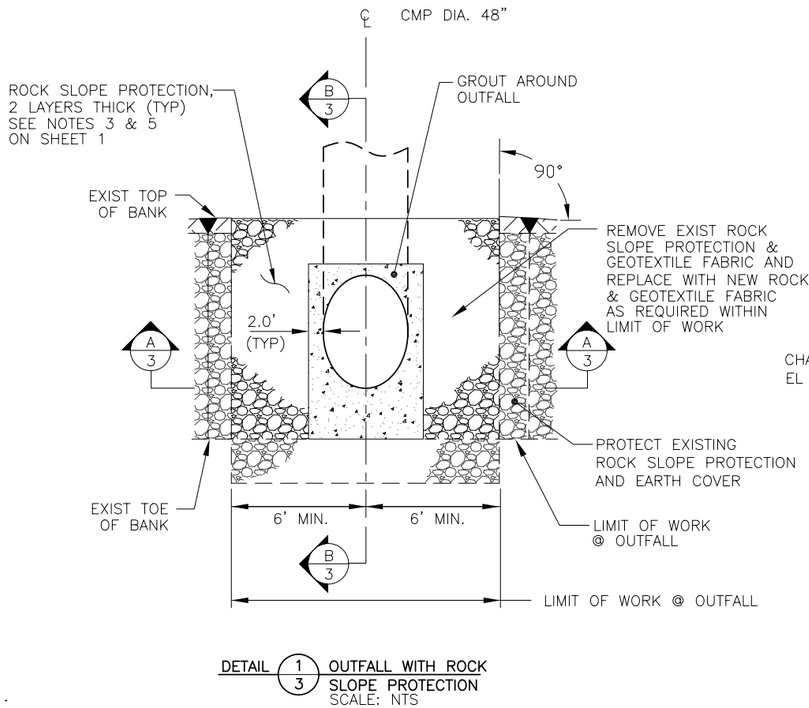
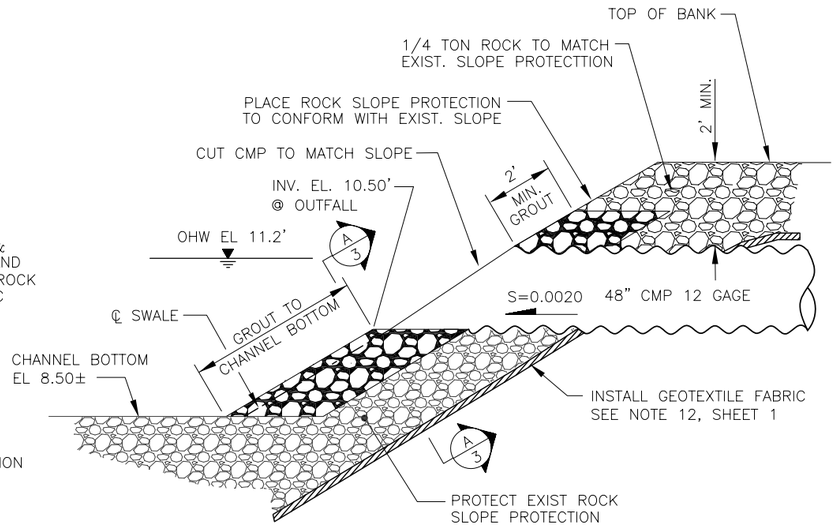
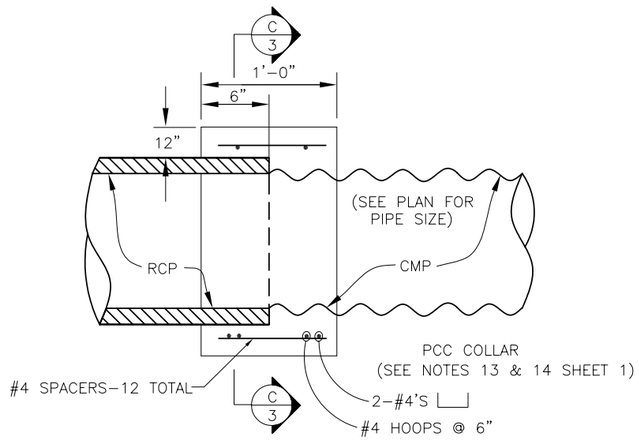


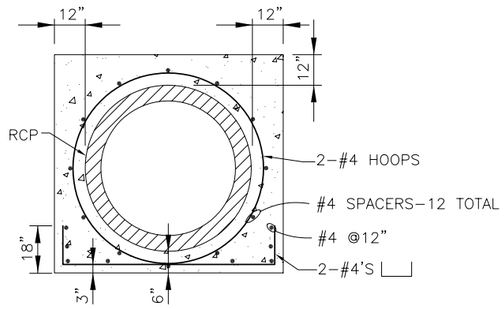
DETAIL 1/3 OUTFALL WITH ROCK SLOPE PROTECTION
SCALE: NTS



SECTION B/3 OUTFALL GROUTING AND ROCK SLOPE PROTECTION
SCALE: NTS



DETAIL 2/3 PCC COLLAR
SCALE: NTS



SECTION C/3 PCC COLLAR
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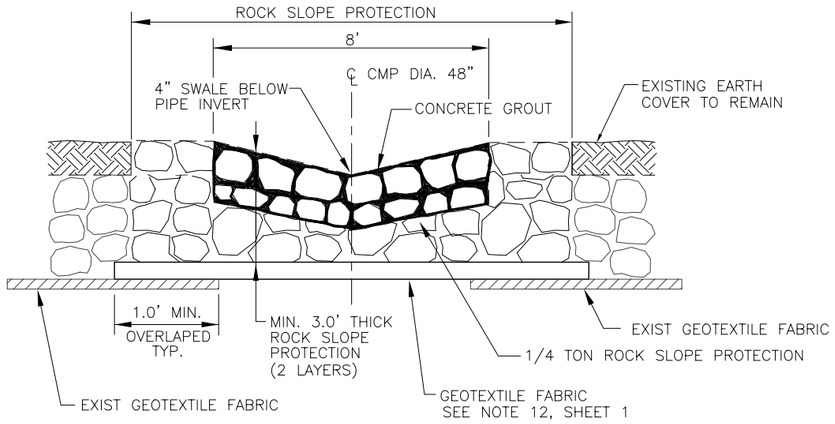

SECTION A/3 OUTFALL ROCK SLOPE PROTECTION REWORK SECTION
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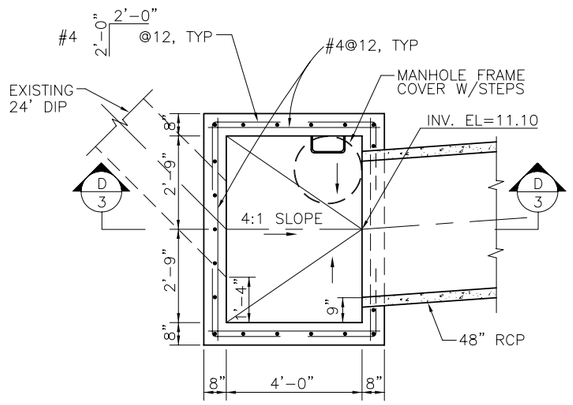
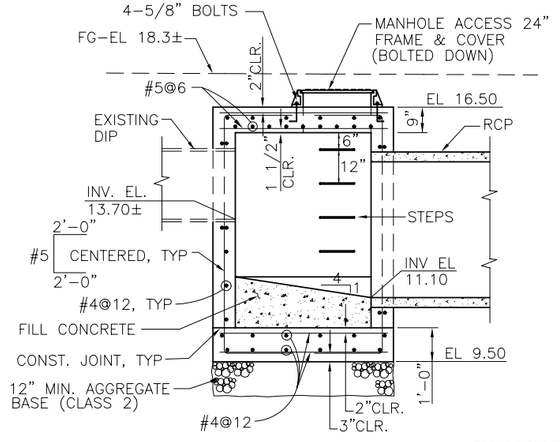


DETAIL 3/3 JUNCTION BOX PLAN
1/2"=1'-0"



SECTION D/3 JUNCTION BOX
1/2"=1'-0"

FIGURE 5

1737 N. FIRST STREET, SUITE #300
SAN JOSE, CALIFORNIA 95112-4524
(408)436-4909

CH2MHILL

DSGN	B.M.M.
DR	J.C.
CHK	D.V.R.
APVD	B.M.M.

NO.	DATE	REVISION	BY	APVD

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

LOS ESTEROS
CRITICAL ENERGY FACILITY
SAN JOSE, CALIFORNIA

PERMANENT
STORM DRAINAGE OUTFALL
NOTES & CONSTRUCTION DETAILS

SHEET	3
DWG NO.	3 OF 3
DATE	03/25/03
PROJ NO.	179091

E052003003SAC_Los_Esteros\FINAL fig_5.ai 05.13.03 dfacile

ATTACHMENT 8.15-S3

September 2003 Self-Monitoring Report

SAN JOSE'/SANTA CLARA WATER POLLUTION CONTROL PLANT

SELF MONITORING REPORT

COMPANY NAME: Los Esteros Critical Energy Facility, L.L.C.	Permit #: SJ-488A	WPCP use only - sample #
Discharge Address: 1515 Alviso-Milpitas Road, San Jose, CA		
R Due Date: 30 September 2003	Sample Time: Composite 1200 to 1200, 24 hours Grab 1300, 09/17/03	Sample Point Description: Waste water pump final discharge to sanitary sewer line.
Sampled By: Clearwater Environmental	Sample Date: 09/16/03 – 09/17/03	
Date Received:	Received By:	

List all values in mg/l **(or indicate units)**

ANALYTICAL RESULTS

Attach Original Report

PARAMETER	Det. Limit	Conc.	Grab Comp (G/C)	PARAMETER	Det. Limit	Conc.	Grab Comp (G/C)
Antimony				EPA 601/602*			
Arsenic				EPA 624/625*			
Beryllium				Phenols			
Cadmium				Xylene			
Chromium (T)	.005	ND	C	Oil & Grease	1.0	ND	G
Copper	.005	0.010	C	Cyanide (A)			
Lead				Cyanide (T)			
Managanese				pH	NA	7.8	G
Mercury				Other:			
Nickel							
Selenium							
Silver							
Zinc	.005	0.6	C	QA/QC Provided? Y ☑ N ☐			

* Totalize all TTO (EPA 601/602 & EPA 624/625) results greater than 10 ppb (ug/l)

Laboratory Used:
Entech Analytical Labs, Inc.

Attach extra sheets for additional sample points.
Included? Yes? ☑ No? ☐

ARE DISCHARGE STANDARDS BEING MET ON A CONSISTENT BASIS? Yes? ☑ No? ☐

If "no", what additional operation and maintenance or pretreatment measures are necessary to achieve consistent compliance?
Enclose a statement or report

Flow Measurement by: (Circle one)

(Effluent Meter) (Influent Meter) (Bills)

Composite Sample? ☑

Sample duration (hrs) 24

or

Batch Sample? ☐

Representative of:

FLOW DATA: Process Name:	Ave. (gpd)	Max (gpd)
Los Esteros Critical Energy Facility	45,700	332,100

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

THIS FORM MUST BE COMPLETED IN ITS ENTIRETY

PREPARED BY:	CERTIFIED BY:
Signature and Date	Signature and Date
Printed Name and Title Charlie Hoock – Operations Manager	Printed Name and Title Charlie Hoock – Operations Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

September 23, 2003

Fred Chandler
Clearwater EMI
PO Box 2407
Union City, CA 94587

Order:	35843	**Date Collected:**	9/17/2003
Project Name:	SMR-Calpine/Los Esteros Cogen	**Date Received:**	9/17/2003
Project Number:		**P.O. Number:**	0309-049
Project Notes:			

On September 17, 2003, sample was received under documentented chain of custody. Results for the following analyses are attached:

Matrix	Test	Method
Liquid	Chromium	EPA 200.7
	Copper	EPA 200.7
	PDF	PDF
	pH	EPA 150.1
	Zinc	EPA 200.7

Chemical analysis of these samples has been completed. Summaries of the data are contained on the following pages. USEPA protocols for sample storage and preservation were followed.

Entech Analytical Labs, Inc. is certified by the State of California (#2346). If you have any questions regarding procedures or results, please call me at 408-588-0200.

Sincerely,

Patti Sandrock
QA/QC Manager

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Clearwater EMI
PO Box 2407
Union City, CA 94587
Attn: Fred Chandler

Date: 09/23/03
Date Received: 9/17/2003
Project Name: SMR-Calpine/Los Esteros Cogen
Project Number:
P.O. Number: 0309-049
Sampled By: Fred Chandler

Certified Analytical Report

Order ID: 35843 **Lab Sample ID:** 35843-001 **Client Sample ID:** Esteros-S1

Sample Time: 12:45 PM **Sample Date:** 9/17/2003 **Matrix:** Liquid

Parameter	Result	DF	PQL	DLR	Units	Analysis Date	QC Batch ID	Method
pH	7.8	1			STU	9/17/2003	WPH030917	EPA 150.1

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Clearwater EMI
PO Box 2407
Union City, CA 94587
Attn: Fred Chandler

Date: 09/23/03
Date Received: 9/17/2003
Project Name: SMR-Calpine/Los Esteros Cogen
Project Number:
P.O. Number: 0309-049
Sampled By: Fred Chandler

Certified Analytical Report

Order ID: 35843 **Lab Sample ID:** 35843-001 **Client Sample ID:** Esteros-S1

Sample Time: 12:45 PM **Sample Date:** 9/17/2003 **Matrix:** Liquid

Parameter	Result	DF	PQL	DLR	Units	PrepDate	Analysis Date	QC Batch ID	Method
Chromium	ND	1	0.005	0.005	mg/L	9/18/2003	9/19/2003	WM8525	EPA 200.7
Copper	0.010	1	0.005	0.005	mg/L	9/18/2003	9/19/2003	WM8525	EPA 200.7
Zinc	0.60	1	0.005	0.005	mg/L	9/18/2003	9/19/2003	WM8525	EPA 200.7

DF = Dilution Factor ND = Not Detected DLR = Detection Limit Reported PQL = Practical Quantitation Limit

Analysis performed by Entech Analytical Labs, Inc. (CA ELAP #2346)

Patti Sandrock, QA/QC Manager

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Quality Control Results Summary

QC Batch #: WM8525
Matrix: Liquid

Units: mg/L
Date Analyzed: 9/19/2003

Parameter	Method	Blank Result	Spike Sample ID	Spike Amount	Sample Result	Spike Result	QC Type	% Recovery	RPD	RPD Limits	Recovery Limits
Chromium	EPA 200.7	ND		0.5		0.5614	LCS	112.3			93.2 - 120.3
Copper	EPA 200.7	ND		0.5		0.5295	LCS	105.9			75.0 - 125.0
Zinc	EPA 200.7	ND		0.5		0.5282	LCS	105.6			94.8 - 120.6
Chromium	EPA 200.7	ND		0.5		0.5545	LCSD	110.9	1.24	25.00	93.2 - 120.3
Copper	EPA 200.7	ND		0.5		0.5236	LCSD	104.7	1.12	25.00	93.2 - 115.5
Zinc	EPA 200.7	ND		0.5		0.5222	LCSD	104.4	1.14	25.00	94.8 - 120.6

Entech Analytical Labs, Inc.

3334 Victor Court (408) 588-0200
Santa Clara. CA 95054 (408) 588-0201 - Fax

Chain of Custody / Analysis Request

Attention to: FRED CHANDLER	Phone No.: (510) 476 1740	Purchase Order No (Reqd).: 0309 - 049	Send Invoice to (if Different) / Phone
Company Name: CLEARWATER ENV. MGMT	Fax No.: (510) 476 1786	Project Number:	Company
Mailing Address: PO BOX 2407	email:	Project Name: SMR - CALPINE / LOS ESTEROS COGEN.	Billing Address (if Different)
City: UNION CITY	State: CA / Zip: 94587	Project Location: 1515 ALVISO MILPITAS RD, SAN JOSE	City / State / Zip

Sampler: FIC
Field Org. Code:
Global ID:

Turn Around Time
- ☐ Same Day ☐ 1 Day
- ☐ 2 Day ☐ 3 Day
- ☐ 4 Day ☐ 5 Day
- ☒ ~~Standard (10 Day)~~ 5

Order ID:

Client ID:	Field PT	Lab. No.	Sampling Date	Sampling Time	Matrix	Composite	Grab	Containers	Preservative	Volatile Organics by GC/MS: 601/602 ☐ 624 ☐ 8260B ☐	Fuel Oxygenates by 8260 ☐ 8010 by 8260B ☐ MTBE by 8260B ☐	Pesticides-8081 ☐	PCBs - 8082 ☐	TPH as Gas/BTEX ☐ TPH as Gas/BTEX/MTBE ☐	Base/Neutral/Acid Organics 8270 ☐ 8270-SIM ☐ PNA ☐	Fuel Scan Extractable ☐ Purgeable ☐	Diesel ☐ w/ Si-gel Standard Cleanup ☐ Motor Oil ☐ w/ Si-gel Column Cleanup ☐	pH	CN	TRPH ☐ Oil & Grease ☐	Metals - Circle Below Total ☒ Dissolved ☐	STLC	TTLC	Remarks
ESTEROS-S,	35843-001		9/17/03	1245	W	X		2	X								X				X			

9 SEP 17 13:00

Relinquished by:	Received by:	Date:	Time:
[signature]	Alex	9/17/03	1300
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:
Relinquished by:	Received by:	Date:	Time:

Special Instructions or Comments
PLEASE SEND A COPY OF ANALYTICAL RESULTS DIRECTLY TO CHRISTINE SWARTS @ (christines@calpine.com)

Metals:
Al, As, Sb, Ba, Be, B, Cd, Ca, (Cr), Co, (Cu), Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Si, Ag, Na, Se, Sr, Tl, Sn, Ti, V, (Zn), W : RCRA-8 ☐ CAM-17 ☐ Plating ☐ PPM-13 ☐ LUFT-5 ☐

- ☐ NPDES Detection Limits
- ☐ EDD Report Required
- ☐ EDF Report Required
- ☒ PDF File Required

ATTACHMENT 8.15-S4

LECEF 2003 Semi-annual Flow Data:

March through August 2003

CALPINE

Los Esteros Critical Energy Facility

2003 Semi-annual Flow Data: March - August

All Data in Kgal

Midnight Meter		Previous	145.6			
DATE	March	April	May	June	July	August
1	373.0	2697.6	513.1	744.3	1168.5	3235.4
2	391.7	2801.2	530.0	749.0	1208.6	3257.8
3	406.0	3029.4	539.6	753.8	1386.1	3279.3
4	551.2	3120.5	546.2	758.5	1390.5	3334.7
5	883.3	3130.0	555.8	763.3	1394.6	3355.3
6	948.7	3137.6	565.3	768.0	1394.6	3399.5
7	959.3	3151.6	578.6	772.8	1400.3	3468.6
8	978.4	3236.9	592.1	777.5	1430.3	3553.9
9	983.9	3465.9	601.7	782.3	1502.8	3571.2
10	1186.1	3483.3	607.1	787.0	1560.5	3651.4
11	1277.7	3505.3	616.3	791.8	1564.9	3816.5
12	1364.8	150.0	625.4	796.5	1604.8	3924.5
13	1423.7	301.6	634.6	801.3	1604.8	4044.9
14	1512.8	311.6	644.2	806.0	1688.2	4112.0
15	1614.9	317.0	649.5	810.8	1775.6	4201.0
16	1772.4	340.6	659.3	857.6	1868.1	4269.0
17	1940.1	350.6	664.8	910.0	1971.4	4352.0
18	2016.6	360.6	673.8	922.7	2030.1	4468.2
19	2090.5	365.9	682.9	931.4	2034.2	4468.2
20	2210.5	371.3	687.2	947.1	2038.2	4521.3
21	2322.9	393.4	692.0	951.8	2201.4	4521.3
22	2356.2	424.3	696.7	960.9	2314.1	4525.8
23	2394.4	444.6	701.5	971.8	2400.0	4530.1
24	2427.9	458.1	701.5	975.9	2530.8	4616.4
25	2491.8	468.3	701.5	983.3	2640.0	4753.6
26	2554.4	473.7	701.5	1010.5	2691.8	4908.6
27	2567.9	481.1	701.5	1113.4	2723.4	5024.6
28	2581.7	493.1	701.5	1159.6	2832.6	5028.5
29	2590.6	498.6	730.0	1163.8	2910.0	5040.8
30	2595.0	504.0	734.8	1168.5	3048.1	5044.8
31	2641.8		739.5		3191.8	5052.8

		Average	Max			
Daily Use Kgal		45.7	332.1			
DATE	March	April	May	June	July	August
1	227.4	55.8	9.1	4.8	0.0	43.6
2	18.7	103.6	16.9	4.8	40.1	22.4
3	14.3	228.1	9.5	4.8	177.5	21.4
4	145.2	91.2	6.7	4.8	4.4	55.4
5	332.1	9.5	9.6	4.8	4.1	20.6
6	65.4	7.6	9.5	4.8	0.0	44.2
7	10.7	14.0	13.3	4.8	5.7	69.2
8	19.1	85.3	13.5	4.8	30.0	85.2
9	5.5	229.0	9.6	4.8	72.5	17.4
10	202.2	17.4	5.3	4.8	57.7	80.2
11	91.6	22.0	9.3	4.8	4.5	165.1
12	87.1	150.0	9.1	4.8	39.8	108.0
13	58.8	151.6	9.2	4.8	0.0	120.4
14	89.1	10.0	9.6	4.8	83.4	67.1
15	102.2	5.4	5.3	4.8	87.4	89.1
16	157.4	23.7	9.9	46.8	92.4	68.0
17	167.7	10.0	5.5	52.4	103.3	83.0
18	76.5	9.9	9.1	12.7	58.7	116.2
19	73.8	5.3	9.1	8.7	4.1	0.0
20	120.0	5.4	4.2	15.7	4.0	53.1
21	112.4	22.2	4.8	4.7	163.2	0.0
22	33.3	30.9	4.8	9.1	112.8	4.5
23	38.2	20.3	4.8	10.9	85.9	4.3
24	33.5	13.5	0.0	4.1	130.7	86.3
25	63.9	10.2	0.0	7.5	109.3	137.2
26	62.6	5.4	0.0	27.2	51.8	155.0
27	13.5	7.4	0.0	102.9	31.6	116.0
28	13.9	12.0	0.0	46.2	109.2	3.9
29	8.8	5.5	28.5	4.2	77.5	12.3
30	4.4	5.4	4.8	4.6	138.0	3.9
31	46.8		4.8		143.7	8.1
Totals	2496.2	1367.5	235.5	428.9	2023.3	1861.0

ATTACHMENT 8.15-S5

Technical Memorandum on

Facility Flow, Salinity, and Specific Ions

Los Esteros Critical Energy Facility Flow, Salinity, and Specific Ions

PREPARED FOR: Doug Davy

PREPARED BY: John Dickey

DATE: February 20, 2004

The purpose of this memo is to review potential salinity issues associated with the Los Esteros Critical Energy Facility Phase 2 combined-cycle conversion (LECEF). I have reviewed pertinent portions of the project information and documentation to prepare this review.

This review makes the following major points:

1. The LECEF project concentrates existing salinity, but adds negligible new salinity. Also, it does not appreciably change the relative abundance of specific ions important for irrigation, either in the wastewater or in the overall South Bay Water Recycling (SBWR) water supply.
2. The expected magnitude of salinity impacts to the SBWR water supply from the LECEF project would be minor, and manageable, requiring little or no adjustment in practices by other irrigation or industrial users.
3. The LECEF provides a significant benefit to SBWR, which endeavors to expand its base of users and overall demand for reclaimed water in the user area.

LECEF Impact on SBWR Demand and Water Chemistry

Tables 1 and 2 show water flow, as well as salt and constituent ion concentrations for the LECEF facility and for the SBWR system, before and after the project. Concentration factors were calculated. Salinity of the Water Pollution Control Plant (WPCP) influent salinity and volume was considered similar to WPCP effluent. WPCP effluent SBWR water supply salinity were also assumed to be similar. Concentration was calculated as the flow-weighted average of WPCP influent and LECEF effluent constituent concentrations (see footnote d in Table 2).

Addition of the LECEF facility to the SBWR system results in the following:

1. About a 1% increase in concentration of salinity and constituent ions
2. About a 0.6% change in the sodium adsorption ratio (SAR) of SBWR reclaimed water
3. Demand for about 15% of the current SBWR capacity

TABLE 1
Flow of Treated Wastewater and Recycled Water, WPCP and SBWR

Source	Flow			Notes
	(mgd)	(Percent of....)		
Approx. WPCP inflow (average dry weather)	130			
South SF Bay dry weather discharge flow trigger	120			
Phase 1 SBWR program (design)	15	12%	of outflow	
Current SBWR use (approx.)	9	53%	of Phase 1	From 2001 data, http://www.ci.san-jose.ca.us/sbwr/SBAbout.htm.
LECEF consumption (avg.)	1.359			
Non-potable	1.357	15%	of current recycling	
Potable	0.0016	0.1%	of LECEF consumption	
Average LECEF discharge	0.32	0.25%	Of WPCP inflow	

TABLE 2
Recycled Water, LECEF Combined Waste, and Projected SBWR Water Quality

Constituent	Units	Base SBWR[a]	Combined Waste[b]	Projected SBWR[c]	Concentration Factor[d]:
Flow	gpm	6281	225		
	mgd	9.0	0.32		
Salinity, acidity					
TDS	mg/L	808	4208	817	1.05%
Electrical conductivity	dS/m	1.26	6.58	1.28	
pH	p(molar)	7.2	7.5	7.2	
Cations					
Calcium	mg/l	52.6	225	53.1	0.82%
	mass fraction f	6.5%	5.4%	6.5%	
Magnesium	mg/l	30.9	153	31.2	0.98%
	Mass fraction	3.8%	3.6%	3.8%	
Sodium	mg/l	171	886	173	1.04%
	Mass fraction	21.2%	21.1%	21.2%	
SAR	(meq/L)(1/2)	4.62 nc		4.65	0.59%
Chloride	mg/l	215	972	217	0.88%
	Mass fraction	26.6%	23.1%	26.6%	

[a]Based on re-calculated concentration factors for after implementation of the MEC project, MEC project concentrations and flows from CH2M HILL. 2000. Analysis of Potential Salinity Effects on SBWR Recycled Water Supply Due to Discharge of Cooling Tower Blowdown by Metcalf Energy Center.

[b] Predicted Water Usage 121503.xls

[c]Base SBWR concentrations * concentration factor

[d] Concentration factors for each project calculated as ((concentration of project wastewater)-(concentration of WPCF inflow [assumed equal to SBWR concentrations]))*project wastewater flow rate/(concentration of WPCF*inflow*WPCF inflow rate)

Implications for SBWR Water Use for Irrigation

Changes to system-wide water quality are projected to be quite small. When examined relative to plant sensitivity to salinity and specific ions, the changes do not significantly degrade water quality.

Where incremental increases in salinity or specific ions might affect irrigators with extremely sensitive crops, minor adjustments to irrigation scheduling would readily mitigate this effect. In general, increases in leaching fraction would be the main strategy for dealing with salinity, and avoiding daytime sprinkling during hot weather are the main approaches for avoiding sodium or chloride toxicity. Some of these practices may currently be necessary for irrigators with sensitive species; however, *there is no significant change in the extent of this problem as a result of the LECEF project.*

SAR primarily affects the soil, potentially causing dispersion of aggregates at high levels, particularly at low salinity. The small changes in salinity and SAR effectively cancel each other out, resulting in no significant change in the tendency of irrigation water to cause soil dispersion. Where soil dispersion is already an issue due to local sources of sodium or irrigation practices, it can be dealt with by addressing the root causes, and by applying appropriate soil amendments.

LECEF Contribution to SBWR Demand

SBWR actively seeks client water users. Industrial cooling clients represent a significant portion of the demand in the heavily urbanized region. Indeed, use of recycled water for cooling tower makeup, where such water is available and reasonably priced, is required by law in the State of California. LECEF would demand about 15% of the current SBWR supply (see Table 1), therefore appreciably expanding the market for reclaimed water in the region.

ATTACHMENT 8.15-S6

San Jose Department of Environmental Services

Recycled Water Permit

Post-it® Fax Note 7671	Date 3-3-04	# of pages ▶ 1
To Christine Suartz	From Gordon Searle	
Co./Dept. Calpine	Co. CSJ - Muni Water	
Phone #	Phone #	
Fax # 456-0421	Fax # 227-7959	

RECYCLED WATER USE PERMIT

SOUTH BAY WATER RECYCLING

Customer Number: SJ | 000 | 4271 ☑ ☐

Site Name: LOS ESTEROS CRITICAL ENERGY FACILITY (CALPINE P

Site Address: LOS ESTEROS RD

SAN JOSE | CA | 95134

Business Type: POWER PLANT

Startup Date: 12/16/02

	Owner Information:	Site Information:
Name:	LOS ESTEROS CRITICAL ENERGY FACILITY (CALPINE POWER)	LOS ESTEROS CRITICAL ENERGY FACILITY (CALPINE POWER)
Address:		LOS ESTEROS RD
		SAN JOSE | CA | 95134

	Owner Contact Information:	Site Contact Information:
Name:	Chuck Vosicka	Chuck Vosicka
Title:	Senior Project Engineer	Senior Project Engineer
Phone Number:	(408) 957-4712	(408) 957-4712
Fax Number:		
Email:		

Landscape Contractor:

Related Information:

APN Number(s):	
Acreage:	
Land Use:	POWER GEMERATION
Retailer:	SJMUNI
Well:	NONE
Flow (AF/yr)	300
Meter No.	
Comments:	

Signature: _____ **Date:** 12/10/02

8.16 Worker Health and Safety

1. Existing Site Conditions (Appendix B[g][11][B]):

A complete description of the fuel handling system and the fire suppression system.

Information required to make AFC conform with regulations:

Need descriptions of fuel handling and fire systems, include: water sources, volumes and rates for Phase 1 & 2.

Response: See AFC Sections 2.3.3 and 6.0 for description of fuel gas handling systems. See sections 2.6 and 2.6.2.1 fire protection system description. Also see Figures 2.4-1 & 2.4-3 for both systems.